NETASQ

NETASQ EVENT REPORTER

NETASQ EVENT REPORTER

V. 8.0

USER MANUAL

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PART 1: INTRODUCTION

CHAPTER 1: BASIC PRINCIPLES

1.1.1. Who should read this user guide?

This manual is intended for network administrators or for users with the minimum knowledge of IP.

In order to configure your NETASQ Firewall in the most efficient manner, you must be familiar with these protocols and their specific features:

- ICMP (*Internet Control Message Protocol*).
- IP (*Internet Protocol*).
- TCP (*Transmission Control Protocol*).
- UDP (*User Datagram Protocol*).

Knowledge of the general operation of the major TCP/IP services is also preferable:

- HTTP.
- FTP.
- Messagerie (SMTP, POP3, IMAP).
- Telnet.
- DNS.
- DHCP.
- SNMP.
- NTP.

If you do not possess this knowledge, don't worry: any general book on TCP/IP can provide you with the required elements.

The better your knowledge of TCP/IP, the more efficient will be your filter rules and the greater your IP security.

1.1.2. Typographical conventions

1.1.2.1. Abbreviations

For the sake of clarity, the usual abbreviations have been kept. For example, **VPN** (*Virtual Private Network*). Other acronyms will be defined in the glossary.

1.1.2.2. Display

Names of windows, menus, sub-menus, buttons and options in the application will be represented in the following fonts:

> Menu **`Interfaces`**

1.1.2.3. Indications

Indications in this manual provide important information and are intended to attract your attention. Among these, you will find:

NOTES/REMARKS
These messages provide a more detailed explanation on a particular point.

WARNING/RECOMMENDATION
These messages warn you about the risks involved in performing a certain manipulation or about how not to use your appliance.

TIP
This message gives you ingenious ideas on using the options on your product.

DEFINITION
Decribes technical terms relating to NETASQ or networking. These terms will also be covered in te glossary.

1.1.2.4. Messages

Messages that appear in the application are indicated in double quotes.

Example: "Delete this entry?"

1.1.2.5. Examples

> **Example**
> This allows you to have an example of a procedure explained earlier.

1.1.2.6. Commands lines

Command lines
`Indicates a command line (for example, an entry in the DOS command window).`

1.1.2.7. Reminders

Reminders are indicated as follows:

Reminder.

1.1.2.8. Access to features

Access paths to features are indicated as follows:

Access the menu **`File\Options.`**

1.1.3. Vocabulary

Appliance	Refers to the security device (firewall) that NETASQ develops.
Dialup	Interface on which the modem is connected.
UTM Fxx	Refers to the NETASQ product range. Other terms also used: NETASQ Fxx, Fxx appliance.
Firewall	NETASQ UTM device /product
Intrusion prevention	Unified Threat Management is also used in its place.
Configuration slot	(*or policy*.). Configuration files which allow generating filter and NAT policies, for example.
Logs	A record of user activity for the purpose of analyzing network activity.

1.1.4. Getting help

To obtain help regarding your product and the different applications in it:

- website: www.netasq.com. Your secure-access area allows you to access a wide range of documentation and other information.
- user manuals: NETASQ UNIFIED MANAGER, NETASQ REAL-TIME and NETASQ EVENT REPORTER.

1.1.5. Introduction to NETASQ EVENT REPORTER

The NETASQ EVENT REPORTER is a module of the NETASQ Firewall Administration Suite. This application program enables the display of log files generated by NETASQ Firewalls.

This data can be used to analyze your network activity, access to your computer systems, staff use of the Internet (web sites visited, email use…) in order to diagnose hacking attempts detected and blocked by the Firewall.

The data is displayed either in the form of tables, enabling a precise and detailed analysis, or in the form of graphs, thus providing a consolidated, global display of the data.

NETASQ EVENT REPORTER's logging functions enable displaying the events stored in each log file in one of the following ways:

- selecting periods predefined in relation to the current date (“today”, “this weel”, etc.) or defined manually,
- sorting (ascending/descending) by the value in each field in which a security event has been captured
- hierarchical classifications according to the value of one or several fields in which a security event has been captured.

The logs analyzed by the NETASQ EVENT REPORTER are either retrieved directly from the desired Firewall, upon each request, or from the Syslog files, supplied by the NETASQ SYSLOG service. In the latter case, the log files are stored locally on the administration machine.

REMARK
NETASQ SYSLOG and NETASQ EVENT REPORTER have to be installed on the same workstation.

This version retrieves the desired data upon each request, either from the Firewall or from the files supplied by the Syslog service. It can also use PostgreSQL database.
(*See Part 3\Chapter 1\point1*).

DEFINITIONS
1) PostgreSQL (pronounced "post-grez-Q-L") is an object-relational database management system that operates on UNIX and Windows systems.
PostgreSQL uses graphical interfaces to manage tables and libraries for many languages in order to access files saved from programs such as Java, C and C++, Perl...It allows any application that supports this type of interface to access PostgreSQL databases.
PostgreSQL works on a client-server architecture.
2) The Collector, when used together with a database that can collate and consolidate logs from several Firewalls, can be used in conjunction with a Syslog or can collect logs directly on the firewall. Administration of this Collector can be carried out in the meu **Outils**, which allows connecting to the database.

CHAPTER 2: CONNECTION

1.2.1. Access

There are 2 ways to launch the NETASQ EVENT REPORTER application:

- Via the shortcut **Applications\Launch NETASQ EVENT REPORTER** in the menu bar on other applications in the Administration Suite.

If this is your very first time connecting to your product, a message will prompt you to confirm the serial number (found on the underside of the appliance).

- Via the menu **Start\Programs\NETASQ\Administration Suite 7.0\NETASQ Event Reporter.**

A connection window or the main window will open:

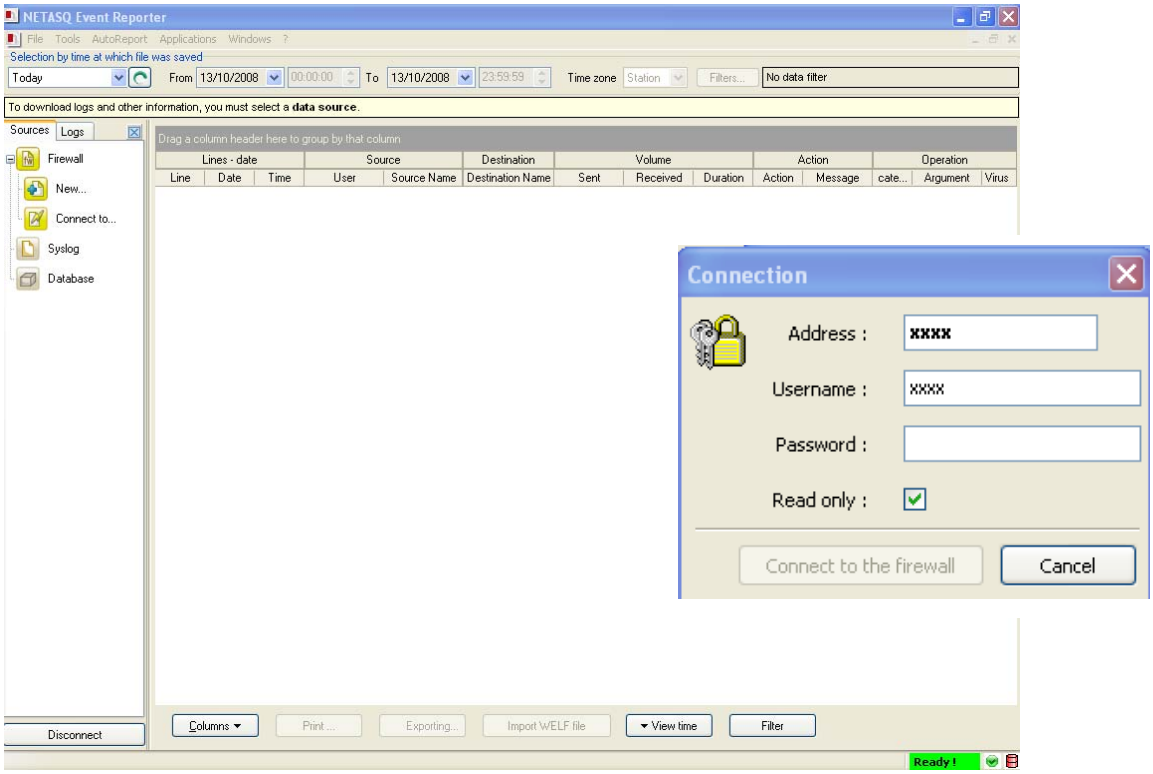


Figure 1: Connection

1.2.2. Connection

In the following window, you can select how you wish to view data:

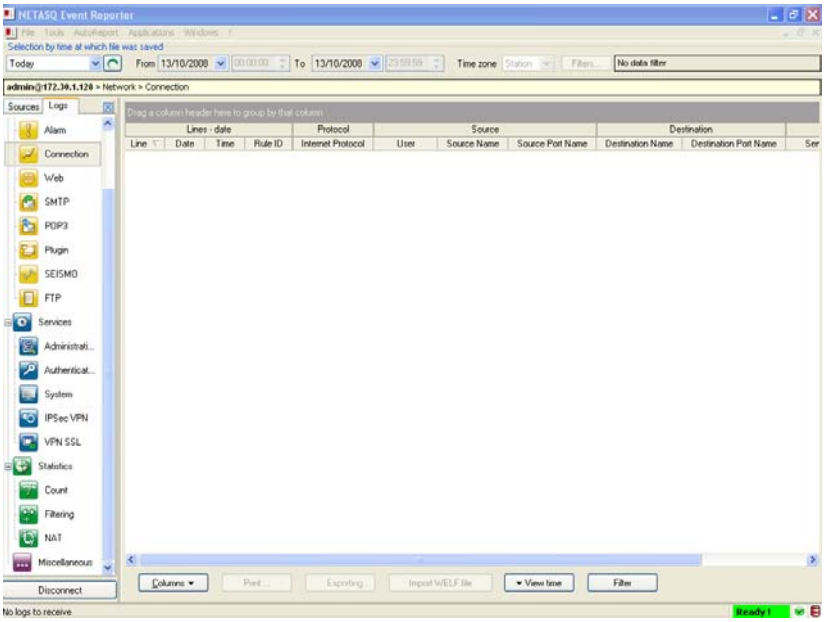


Figure 2: Viewing data

You can either connect to a Firewall, use the log files saved in the database, or look up the Syslog files directly.

When NETASQ EVENT REPORTER is executed from the "Windows" menu, Windows will check whether there is an address book. This address book, which is common to all NETASQ applications, may or may not be encrypted. If it is encrypted, or does not yet exist, there will be an additional step before connecting NETASQ EVENT REPORTER to the Firewall.

1.2.2.1. Direct connection to a NETASQ Firewall

REMARK
This connection is recommended if you have only one firewall and the amount of logs generated is fairly small.

If the address book exists and is encrypted (see the section *Part1/Chapter 2: Address Book* for more information on address book options), its password will be requested before every connection to Reporter on each registered Firewall.

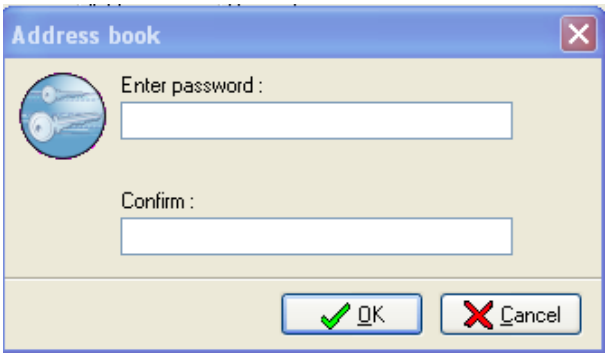


Figure 3: Address book - Password

Next, NETASQ EVENT REPORTER will display a log grid and a connection popup which allow you to enter connection information for a Firewall. This connection window can be accessed if the option **Connect to firewall** has been selected. (*See section Options*).

To connect to a Firewall, use the menu **`Firewall`** in the tab **`Sources`** in the menu directory and select a firewall. The following window will then open:

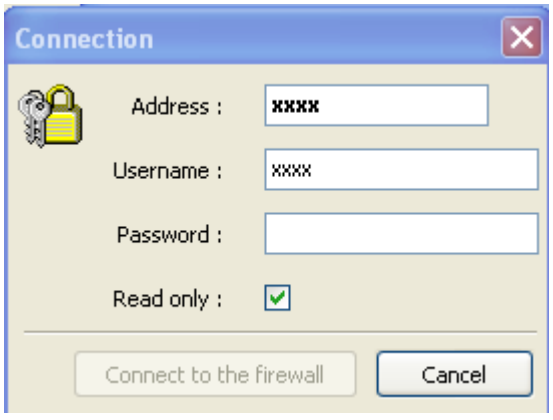


Figure 4: Connection

Address	NETASQ Firewall's IP address or host name on the internal network
Username	User name for the configuration
Password	Password for the user.
Read only	Enables connecting to the Firewall in read-only mode. In this way, you can connect to the firewall without modification privileges using an account that ordinarily has these privileges. This allows avoiding the use of modification privileges if they are not

necessary.

REMARK

If NETASQ EVENT REPORTER has been launched from NETASQ UNIFIED MANAGER or NETASQ REAL-TIME MONITOR, Reporter will automatically connect to the Firewall that is connected to Manager or Monitor.

WARNING

The NETASQ Firewall is case-sensitive, both for the user name as well as for the password.

The option **Read Only** enables connecting to the Firewall in read-only mode. In this way, you can connect to the firewall without modification privileges using an account that ordinarily has these privileges.

TIP

You may connect to several Firewalls simultaneously by opening several windows (menu **`File\Open.`**).

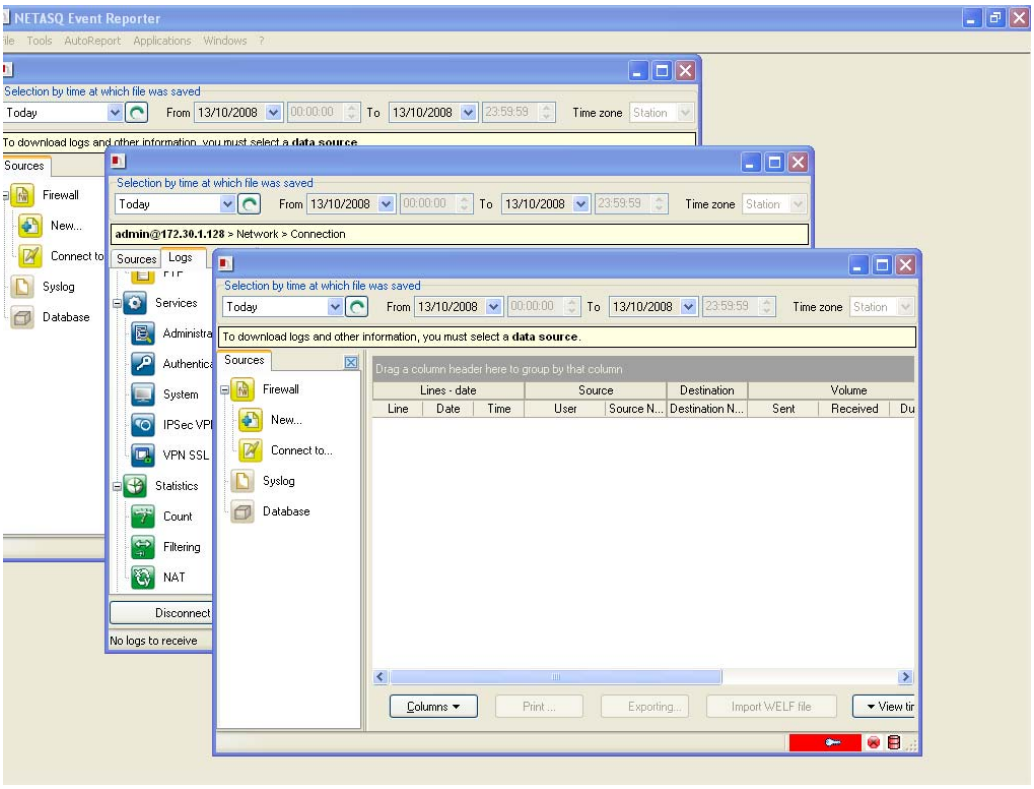


Figure 5: Connecting to several firewalls

1.2.2.2. Connection via the menu Sources

REMARK
This connection mode is recommended if you have a fleet of firewalls.

If the option **Connect to firewall** has not been selected in the configuration of the service, the connection window will not appear. Instead, NETASQ EVENT REPORTER's main window will open.

To connect, click on the tab **Sources\Firewall**, then select the firewall(s) on which you would like reporting.

(See the CHAPTER Sources for more information on this connection)

1.2.2.3. Connecting to the database(s) indicated in the address book

Use the menu **`Database`** in the **`Source`** tab of the menu directory to connect to the database. The following window will open:

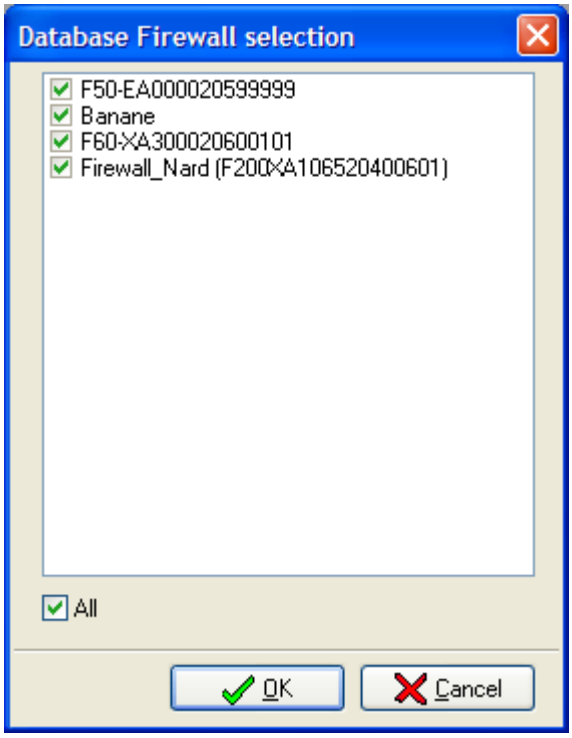


Figure 6: Selecting the firewall from a database

NOTE
For more information on how to install the database, please refer to the NETASQ Administration Suite installation manual.

A window will allow you to select the **Firewalls** in the database in order to view logs from one or several Firewalls. You may also select all the **Firewalls** from the list by checking the option **All**.

1.2.2.4. Reading Syslog logs

- Select the menu **`Syslog`** in the **`Sources`** tab in the menu directory to analyze logs retrieve by Syslog.

1.2.3. Address book

The address book can be accessed from the menu **File\Address book.**

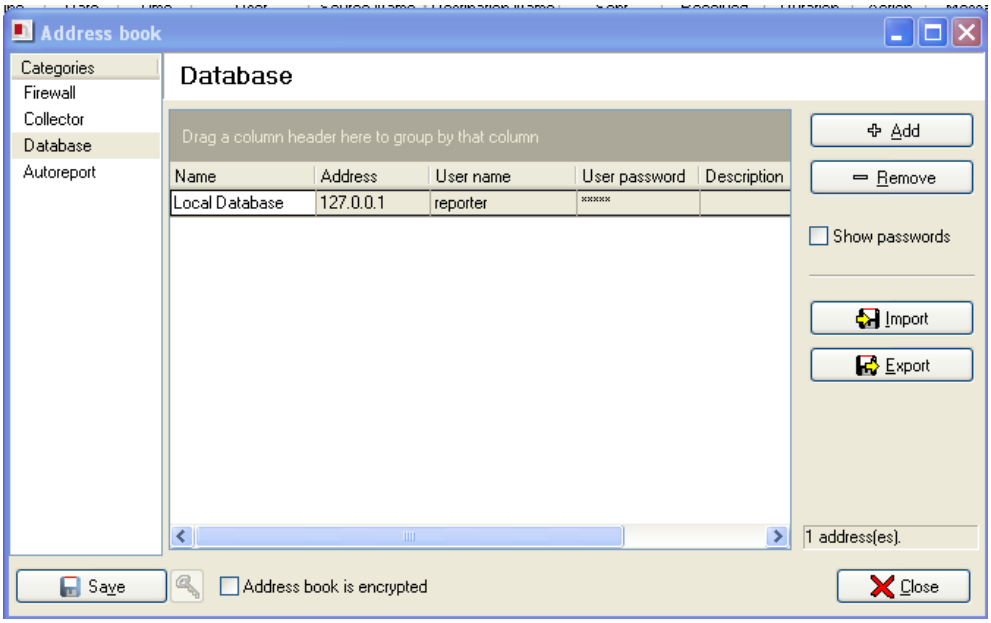


Figure 7: Address book - Database

The address book centralizes all passwords for access to different modules (Firewall, Collector database, Autoreport) and other application in the Administration Suite.

This information is stored on the same client workstation on which the interface has been installed. It may be encrypted if you check the option **Encrypt address book**. In this case, you will be asked to enter an encryption key. For each Firewall, indicate a name (you can select any name, which does not necessarily have to correspond to the Firewall's name), IP address, password and serial number.

WARNING
You are strongly advised to activate the encryption of the address book for obvious security reasons.

Once this information has been entered, you may save it using the "**Save**" button.

WARNING
If you modify the "Encrypt address book" option, the address book has to be saved once more to apply the changes.

Check the option **Show passwords** to check the passwords used for each Firewall saved in the address book (passwords are displayed in plaintext).

1.2.3.1. Adding an address

Click on the button **Add** to add an address to the address book. Other information to supply:

Name	The name of the firewall
Address	IP address of the firewall
User	The administrator account.
Password	Administrator password
Description	Description or comments regarding the firewall.

1.2.3.2. Modifying the password for an address

The procedure for modifying the password for an address is as follows:

1. In the column “Password”, double-click on the password for an address that needs to be changed. A window will open, allowing you to make the change.
2. Click on the **OK** button or close the address book. The following message will appear:

   "The address book has been modified. Save changes?"

3. Click on the **Yes** button to confirm changes.

1.2.3.3. Deleting an address

Pour supprimer un firewall du carnet d’adresses, suivez la procédure ci-dessous:

1. Select the firewall to delete.
2. Click on the **Delete** button. The following message will appear:

   "Confirm removal of these items?"

3. Click on **Yes** to confirm removal.

1.2.3.4. Importing an address book

The procedure for importing an existing address book is as follows:

1. Click on the **Import** button. The following window will appear:

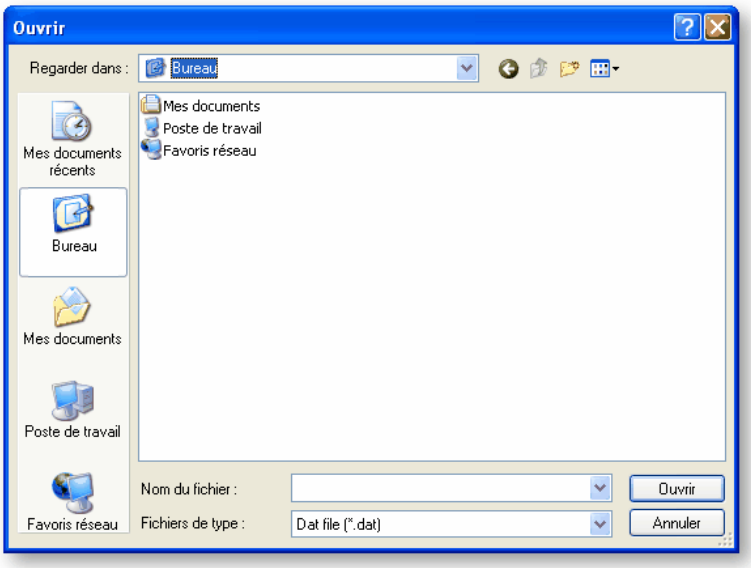


Figure 8: Importing an address book

2. Select the file to import.

REMARK

The file to import should be in **.CSV** format.

3 Click on **Open**.

For obvious security reasons, the address book can be encrypted. To activate encryption, check the option **Encrypt address book**, then define the related password. This password is absolutely necessary for reading information contained in the address book. The address book is encrypted in AES, which is currently the most powerful symmetrical encryption algorithm.

1.2.3.5. Exporting an address book

All the information in the address book can be exported to be used, for example, for complementing another address book. The procedure for exporting an existing address book is as follows:

1 Click on the **Export** button**.** The following window will appear:
2 The following message will appear:

"Encrypt address book? (highly recommended)"

3 If you click on **Yes**, you will be asked to enter the password for the address book before the save window appears:

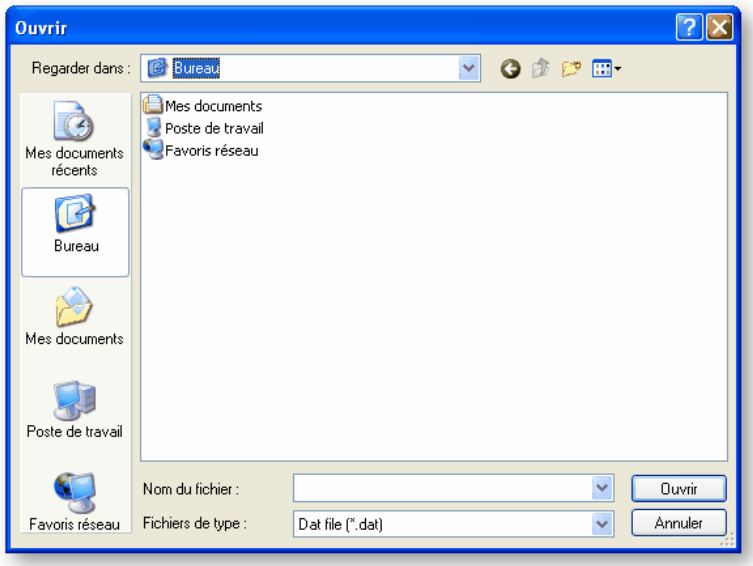


Figure 9: Exporting an address book

REMARK
The file to export should be in.dat format.

4 Click on **Save**.

PART 2: GETTING FAMILIAR WITH REPORTER

CHAPTER 1: PRESENTATION OF THE INTERFACE

2.1.1. Main window

Once you are connected to the Firewall, Reporter's main window appears.

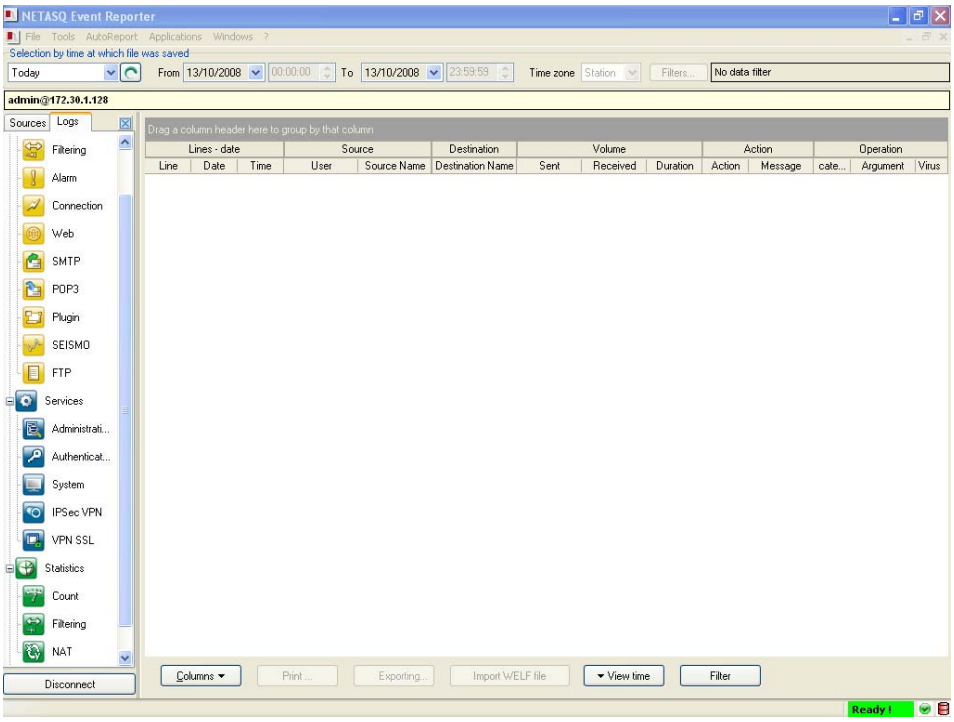


Figure 10: Main window

It comprises six parts:

- A menu bar.
- A menu directory (to the left of the screen)
- A date and filter selection bar (allowing only the analysis of data in the chosen period).
- A result display zone.
- An action bar
- A status bar.

2.1.2. Menu bar

The main window contains the following menu bar:

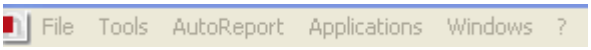


Figure 11: Menu bar

File	Allows you to connect to the firewalls and to access options in the application.
Tools	Allows you to Manager Collector and to access UNIX Syslog.
AutoReport	Allows you to access reports, filters and the service configuration.
Applications	Allows you to directly launch the two other applications that make up the NETASQ Administration Suite – NETASQ UNIFIED MANAGER et NETASQ REAL-TIME.
Windows	Position of the windows and icons in the application.
? (Help)	Allows access to the current help file and to find out Reporter's version.

2.1.3. Menu directory

The menu directory consists of 2 tabs:

Sources	Enables specifying the source of the viewed logs (firewall, Syslog, database).
Logs	Concentrates all the operations in order to analyze data.

2.1.3.1. Sources tab

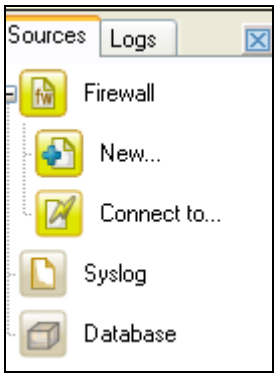


Figure 12: "Sources" tab

The **Sources** tab enables connection to different log sources provided by NETASQ for the analysis of logs and events raised by the Firewall.

Firewall	When directly connected to the Firewall, this log retrieval method makes it possible to dispense with the use of log centralization tools. However, it does not allow centralizing the logs of several Firewalls, which is usually essential for analyzing an event that is spreading on several company sites. Furthermore, this method is only available for appliances that have a hard disk, as without it, logs cannot be saved directly on the Firewall.

Syslog	Log retrieval tool, which is available for all products. It is essential for appliances that do not have hard disks in order to save their logs. By default, it is configured to listen on UDP port 514.
Database	When associated with a database that can combine and consolidate logs from several Firewalls, Collector can be associated with a syslog or gather logs on its own on the Firewall. Collector is administered in the **Tools** menu, which allows connection to the database.

(*These three actions in the **Sources** tab are explained in the Part 3/Chapter 1: Sources in this manual*).

2.1.3.2. Logs tab

Figure 13: "Logs" tab

This tab contains five options, each distinguished by a colored icon:

Graphs	Enables you to display - in the form of on-line graphs, vector graphs or histograms - different types of Firewall data (security and system indicators, processor consumption, throughput on different interfaces, quality of service).
Network	Enables you to display – in the form of tables – all types of Firewall logs, which are divided into 8 tables: **Filter, alarms, connection, web, SMTP, POP3, plugin and SEISMO**. **REMARK** A ninth table appears whenever the user uses the Collector database: it lists the fields to be found in WELF (*WebTrend Enhanced Log Format*) files.
Services	Enables viewing different types of information and messages (administration on the Firewall, authentication information and errors or IPSec and SSL VPN information and errors) in the form of tables.
Statistics	Enables you to display - in the form of tables - different types of statistics (counters, filter rules created and address translation).
Miscellaneous	Enables you to retrieve various log data (amount of logs on the Firewall and on the database). It is also possible to generate a file containing the addresses of all the Internet sites consulted.

TIP

Selecting an entry that is already displayed will refresh data.

2.1.4. Date and filter selection bar

2.1.4.1. Selecting the date

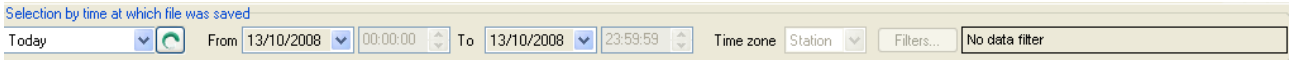

Selection by time at which file was saved
Today
From 13/10/2008 00:00:00 To 13/10/2008 23:59:59 Time zone Station Filters... No data filter

Figure 14: Selecting the date

This bar enables you to define the period over which you wish to retrieve data. You may choose from among a number of pre-defined periods:

- manual selection (you may define any period whatsoever). This option enables you to extract personalized data
- last hour,
- last six hours,
- today,
- yesterday,
- this week,
- this month,
- this year,
- last week,
- last month,
- last year,
- all
- last lines

Filters

You can select the filters to be applied on the columns and perform multi-criteria searches using the selection button (*see the section Part 3/Chapter 5: "Filter Constructor in this manual*).

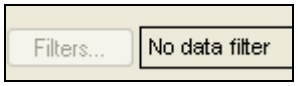


Figure 15: Filters

The selection of this option enables you to constitute data filters on each column. When you activate this option, an arrow pointing downwards ( ) appears at the far right of the columns. By selecting one of the pre-entered values or entering a value of your own choice, you automatically limit the table data to those corresponding to the filter on the selected column.

Then the arrow turns navy blue and the actual filter appears at the bottom of the table. A white cross enables you to delete all the active filters at once.

2.1.5. Result display zone

Data and options from the selected menus appear in this zone, in the form of graphs or tables.

NOTE
These windows will be explained in further detail in the corresponding chapters.

2.1.6. Status bar

Figure 16: Status bar

This bar comprises 5 information zones:

- A text zone displaying Reporter's activity in real time,
- A progress bar allowing an estimate of the duration of the operation,
- A zone displaying the application's status (whether processing is in progress or not, respectively blue or green).
- An icon displaying the status of the connection with the firewall,
- An icon displaying the status of the connection with the database.

2.1.7. Action bar

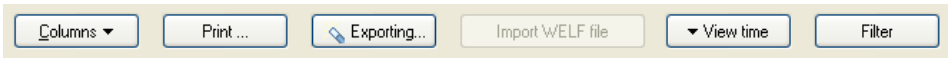


Figure 17: Action bar

2.1.7.1. Columns

Customize	The columns of the table may be moved around, removed or. This option enables you to select the columns you wish to display. A window comprising two tabs then appears, enabling you to manage column headers and the columns. To add or delete a column from the table, all you have to do is select the group of columns or column and drag it either into the table or into the tools window.
Reset	Enables you to restore the original column display
Best fit	Enables you to adapt the width of the columns to the width of the application
Fit to screen	Enables you to adapt the width of the columns to the width of the application
Show totals	Subtotaling of packet volumes (sent, received, duration) for all logs viewed. When you perform a sort (by dragging and dropping a column), a sub-total per sort may be viewed.

2.1.7.2. Print

With this option, you are able to access a print preview menu.

2.1.7.3. Export

Displayed data may be exported for it to be used in other environments. A Wizard will assist you in this process. *See Chapter 6: Data Export.*

2.1.7.4. Import a WELF file

This option enables ordering Collector to load a log file in WELF format into the database.

2.1.7.5. See time

This option allows you to automatically calculate the date and time of the logs displayed in Reporter according to different time zones depending on:

- Your computer's time zone,
- The Firewall's time zone,
- GMT

Thus the date and time vary according to the option selected from those indicated above. Logs from a firewall in London (GMT) can therefore be consulted on a workstation in Paris (GMT+1).

> **Example**
> An "antispam update" event was detected at midnight (London time). If the user selects the option "Your computer's time zone", he will see this event at 1.00 a.m. (Paris time). However, if he selects the option "The Firewall's time zone", at midnight he will see whether the firewall has been configured as it should be in the London timezone.

CHAPTER 2: DESCRIPTION OF THE MENU BAR

2.2.1. File menu

The **File** menu allows the following:

Open	Enables connecting directly to a Firewall via its protocol. **REMARK** In the case of an U30 ou U70 Firewall, data is retrieved from files generated by Syslog (a Firewall's logs are retrieved by the Syslog service and transferred to the selected storage unit).
Address book	Access to the NETASQ Administration Suite's address book.
Options	General configuration of the application, database and log options.
Quit	Closes all connections and exits the application.

2.2.2. Tools menu

The **Tools** menu allows the following:

Manage Collector	Enables obtaining information on the status of NETASQ Log Collector and relaunching it. NETASQ Log Collector is fully configured through this menu.
Unix Syslog	If you have logs from a Unix Syslog other than NETASQ's, the **Unix Syslog** menu wizard allows converting these logs to files that NETASQ Reporter can read.

2.2.3. AutoReport menu

The **AutoReport** menu allows the following:

Reports	Date and interval at which reports are to be generated, the Firewalls concerned, sections of the report and comments relating to the report.
Report sections	Contents of the section, presentation of information and comments relating to the section.
Filters	Definition of SQL Filters and log types. Examples: minor alarms only, major alarms only logs coming only from the IP address x.x.x.x
Configuration of the service…	Parameters of the database and location of the generated report.

2.2.4. Applications menu

The **Applications** menu enables connecting to other applications in the NETASQ Administration Suite. Use these shortcuts instead of having to re-authenticate each time on each application.

Launch NETASQ REAL-TIME MONITOR…	Enables opening the NETASQ REAL-TIME MONITOR application from the NETASQ Administration Suite.
Launch NETASQ UNIFIED MANAGER…	Enables opening the NETASQ UNIFIED MANAGER application from the NETASQ Administration Suite, in Global Administration mode.

2.2.5. Windows menu

Arrange icons	Enables the organization of icons representing the Firewalls.
Cascade	Cascades the windows connected to Firewalls or databases.
Tile vertical	Enables vertically organizing windows which have not been reduced to icons.
Tile horizontal	Enables horizontally organizing windows which have not been reduced to icons.

2.2.6. ? menu (help)

Help	Displays a screen that accesses documentation in your secure-access area on NETASQ's website.
License	Enables retrieving a new downloaded license from a directory.
About	Displays the "about" box, indicating the software version of NETASQ EVENT REPORTER. In the professional version, information on the REPORTER license is found here: license version, organization name, contact name, e-mail address, and unique user identification for technical support.

CHAPTER 3: OPTIONS

The **Options** sub-menu allows configuring the application, the database and logs.

Go to the menu **File\Options** to configure these options.

2.3.1. General tab

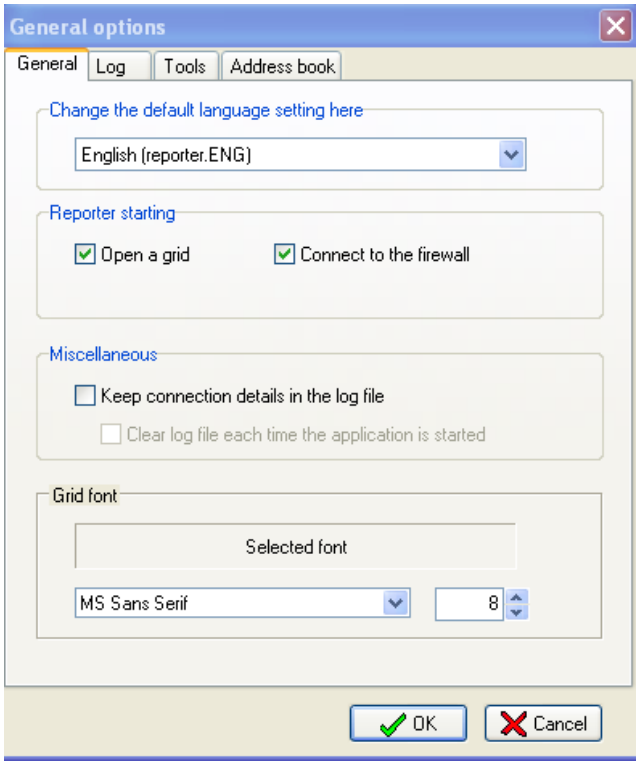


Figure 18: General options - General

2.3.1.1. Default language

The NETASQ EVENT REPORTER application is multilingual. Select the language required for the graphical interface.

2.3.1.2. At startup

2 options are possible:

- **Open a grid**: opens up a log grid when the application is opened.
- **Connection to the firewall**: Authorizes a direct connection to the firewall.

2.3.1.3. Miscellaneous

- **Keep connection logs in a file:** Enables you to generate logs concerning the application's behavior.
- **Empty the log file each time the application is started:** Enables you to have a file of limited volume and to keep active logs only for the purpose of the application in progress.

2.3.1.4. Grid font

This option allows you to specify the font and font size of the text which appears in the log grid.

2.3.2. Log tab

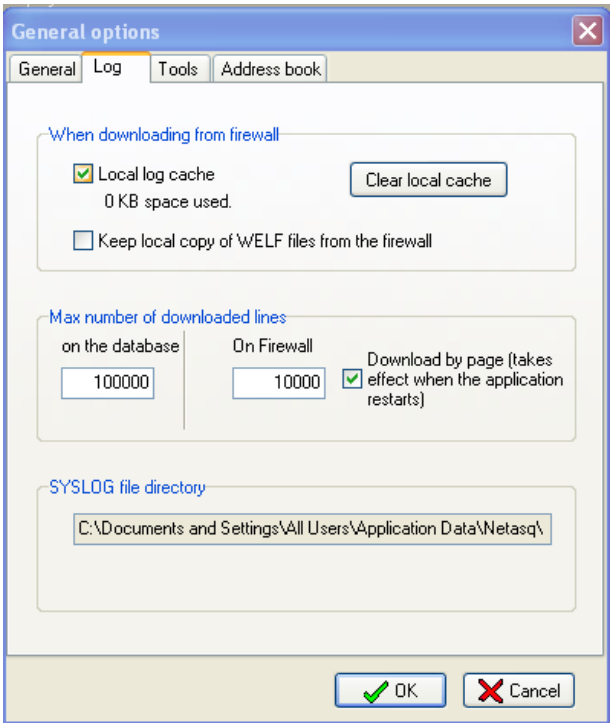


Figure 19: General options - Log

2.3.2.1. When downloading from firewall

- **Local log cache**: this option allows you to speed up log information searches which have already been performed. Data is no longer sent from the Firewall when this option is selected and when data has already been sent (data is then stored in an XML database). This option is inactive when working on the current day.
- **Keep local copy of WELF files from the firewall**: Locally stores all the log files downloaded from the Firewall.

The **Clear local cache** button, as its name implies, allows you to purge the local cache of downloaded logs.

2.3.4.2. Maximum number of downloaded lines

This option allows you to specify the maximum number of lines downloaded for a connection to the database or to the Firewall. In order to facilitate loading and transforming logs, they can be displayed in 15,000 lines per page when you select the option **Download by page**. If the specified period contains more than the maximum number of lines, the logs will be loaded in cache, and a browsing system will enable the display of 15,000 lines per page each time (only in the case of logs directly downloaded from a Firewall).

Example
You have indicated that you wish to load a maximum of 500 log lines per page for the firewall. If the number of lines exceeds this number, the button will become **Page 1/2**.

REMARK
This only applies to logs that have been directly downloaded from a Firewall.

2.3.4.3. Syslog file folder

REPORTER retrieves logs in files generated by Syslog.
The **Modify** button allows looking for a directory in which to save Syslog files.

2.3.3. Tools tab

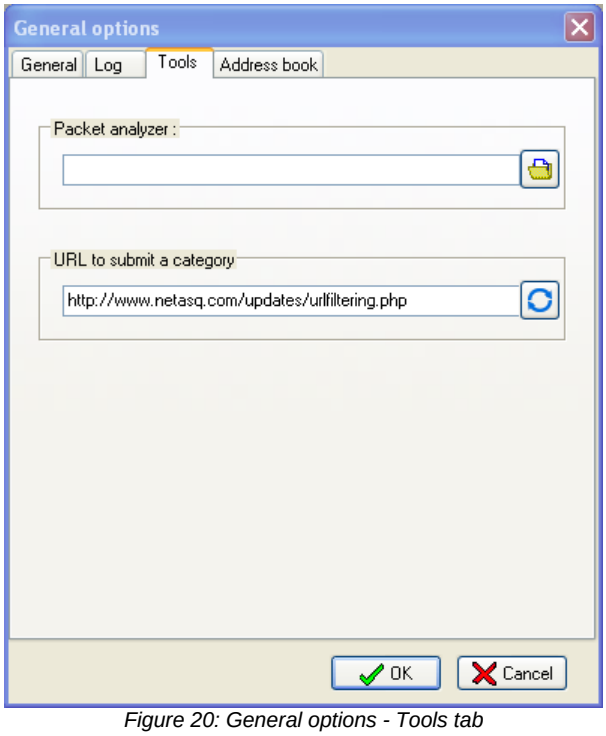


Figure 20: General options - Tools tab

2.3.3.1. Packet analyser

When an alarm is raised on a NETASQ Firewall, the packet that set off the alarm can be viewed. You will need a packet viewer such as Wireshark or Packetyzer to do this. Specify the viewer to be used in the "Packet analyzer" field, so that Reporter can use it to display malicious packets.

2.3.3.2. URL to submit a category

Administrators of NETASQ UTM appliances cannot edit listed and categorized URL groups. However, certain URLs may turn out to be wrongly categorized or are not in the list of URLs categorized by NETASQ. To add URLs to the list of NETASQ URLs, administrators can submit these URLs to NETASQ's website.

The URL for this submission page is http://www.netasq.com/updates/urlfiltering.php. There are two ways of submitting URLs: by connecting directly to NETASQ's website to manually specify the URL, or when the URL appears in Reporter's tables, by using the contextual menu of the Web grid in Reporter so that the submission will be automatic. In order to do this, the URL to be submitted has to be specified in the "URL to submit a category" field in Reporter.

2.3.4. Address book tab

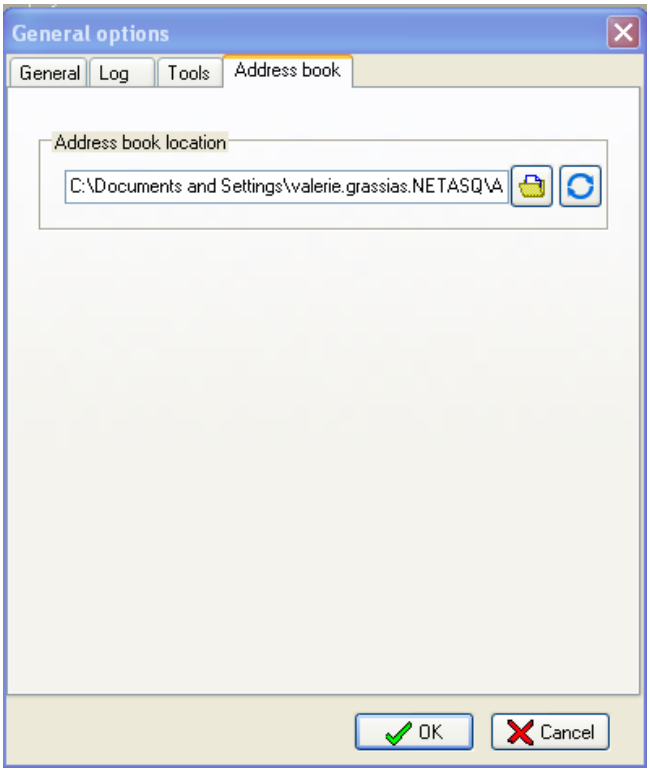


Figure 21: General options - Address book tab

- **Location of the address book**: the NETASQ UNIFIED MANAGER, NETASQ REAL-TIME MONITOR and NETASQ EVENT REPORTER applications use the same address book and therefore the same address book file.
To retrieve a .gap file (NETASQ project file), simply click on “Browse”.

PART 3: USING NETASQ EVENT REPORTER

CHAPTER 1: SOURCES

The **Sources** tab in the menu directory enables specifying the source of logs viewed (Firewall, Syslog and database).

The **Sources** tab enables connection to different log sources provided by NETASQ for the analysis of logs and events raised by the Firewall.

3.1.1. Firewall

When directly connected to the Firewall, this log retrieval method makes it possible to dispense with the use of centralization tools. However, it does not allow centralizing the logs of several Firewalls, which is usually essential for analyzing an event that is spreading on several company sites. Furthermore, this method is only available for appliances that have a hard disk, as without it, logs cannot be saved directly on the Firewall. *(See the section Connection for more information.)*

3.1.1.1. Ways of connecting to the Firewall

A **Firewall** connection in the **Sources** tab enables performing three connection-related actions:

- **New**: By clicking on this option, the address book opens automatically on the list of registered Firewalls. This enables saving the address book of a new Firewall.
- **Connect to the Firewall**: By clicking on this option, the connection window appears and allows connections to the Firewall without the need to register it.

REMARKS

1) If a firewall was already connected, the following message will appear before the connection screen appears: "Confirm disconnection?".
2) If you wish to remain connected while connecting to another firewall, access the menu bar and select **File\Open**. A connection window will open, allowing you to authenticate in order to access another firewall. You can be connected simultaneously to as many firewalls as you wish.

- **Firewall_xx**: lastly, This option provides direct access to the list of registered Firewalls, allowing quick connection to the selected Firewall.

3.1.2. Database

This software is a log retrieval tool that is available on all products and is absolutely necessary for appliances that have no hard disk to save their logs.

- The database gets its contents from Collector, which looks for logs directly on Firewalls.
- Collector gathers logs from files that belong to NETASQ SYSLOG.

The operating principle of this database is to work in the manner of interconnected tables – it is therefore less voluminous. The advantage for the user is a quicker response to his requests.

PostgreSQL also allows data to be rotated, therefore there is no need to manually delete data from the database. Now, according to a predefined configuration in the menu **Tools\Manager Collector\Database**, data is kept for a duration that can be configured (in days).

At the end of this duration, the tables may or may not be destroyed from the database (depending on whether the option had been selected when Collector was configured). All deleted data will be retrieved in text files in Syslog format located in the folder Netasq\AS\7.0*LogCollRel\Syslog_Dump.

As such, the database is regularly updated.

The rotation of data is configured via Collector.

3.1.2.1. Connecting to the database

When associated with a database that can combine and consolidate logs from several Firewalls, Collector can be associated with a syslog or gather logs on its own on the Firewall. Collector is administered in the **Tools\Manager Collector** menu, which allows connection to the database.

Use the sub-menu **Database** in the **Sources** tab to connect to the NETASQ LOG COLLECTOR database.

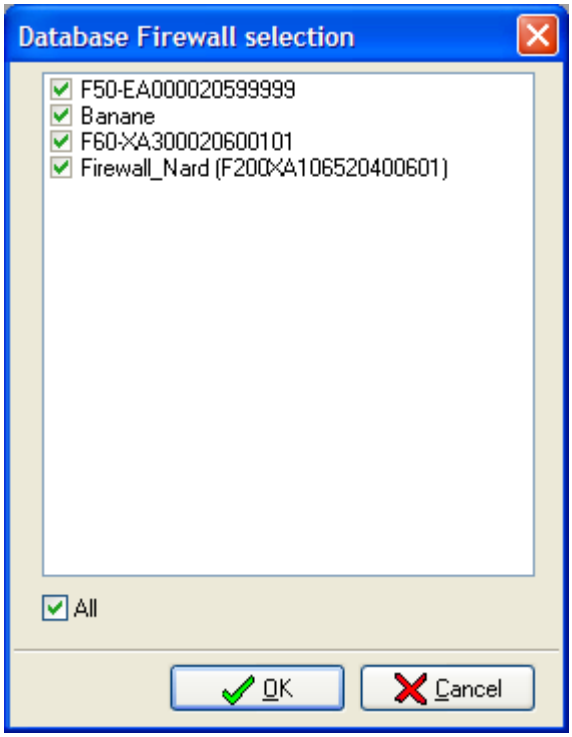


Figure 22: Selecting the firewall from a database

A window proposes the selection of Firewalls in the database in order to view the logs of one or several Firewalls. You may also select all the Firewalls in the list by checking **All**.

3.1.2.2. Reading Syslog logs

To analyze logs retrieved by Syslog, select the **Syslog** option in the **Sources** tab of the menu directory.

CHAPTER 2: GRAPHS

3.2.1. Introduction

Reporter is capable of analysing the Firewall's activity. The **Graphs** menu in Reporter enables the display of Security and System events, the use of the firewall's processor, indicaors of vulnerability levels supplied by NETASQ SEISMO, throughput on the appliance's interfaces as well as the use of each QoS rule.

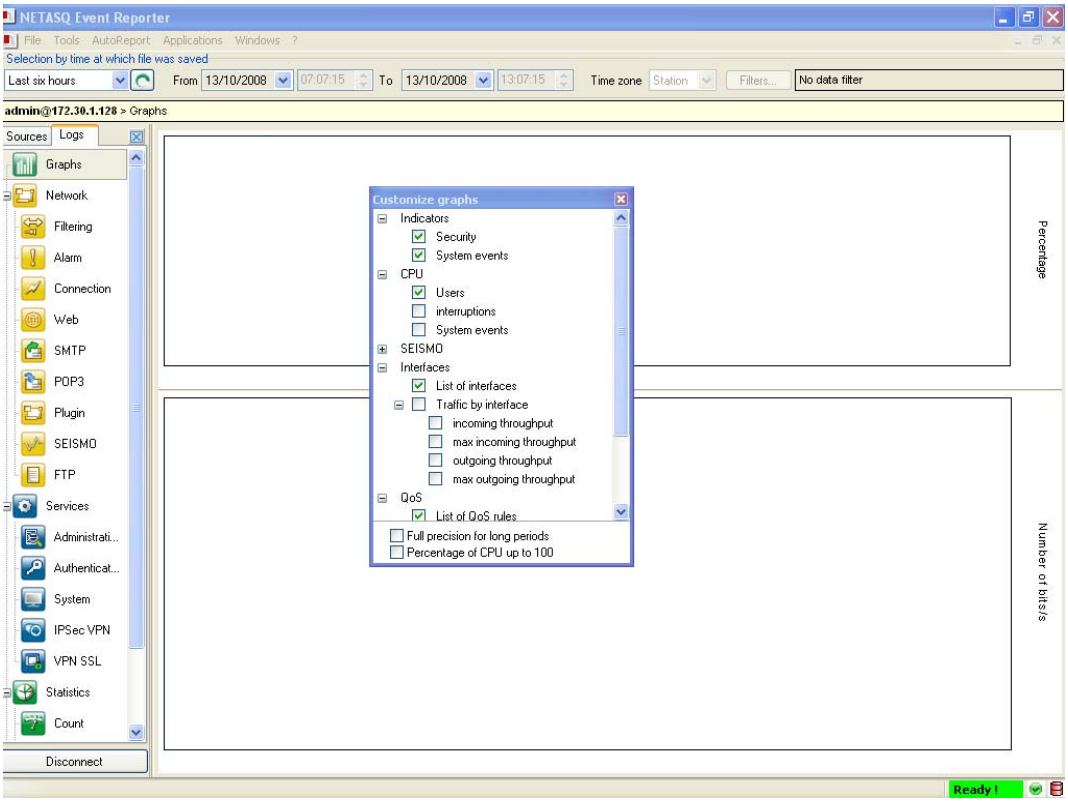


Figure 23: Graphs

3.2.2. Customizing

When you select the **Graphs** menu in the directory, the customization screen will appear at the same time as the graphs. You may close this screen at any time.

TIP
Click on the graph zone to open this screen again if you have closed it.

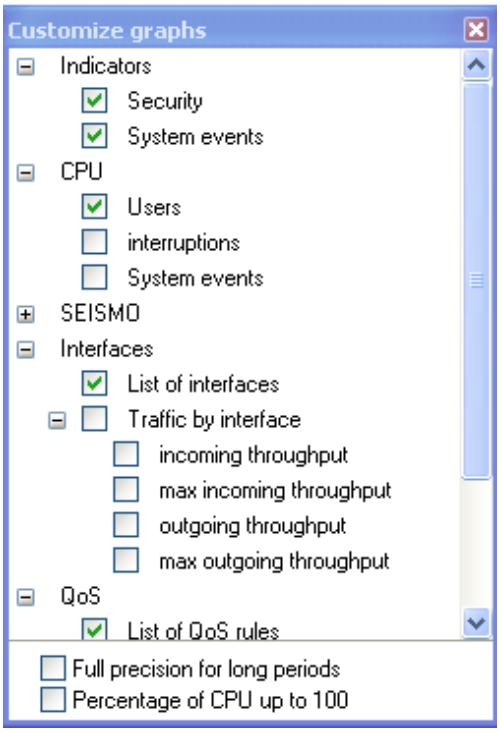


Figure 24: Customizing graphs

3.2.2.1. Security indicators and system events

Security

The security indicator is linked to the monitoring of alarm and events relating to the ASQ kernel.

The security indicator is weighted in several elements:

- **Minor alarms**: indicators of the number of minor alarms.
- **Major alarms**: indicators of the number of major alarms.
- **ASQ memory**: indicators of the amount of ASQ memory left.

The display of these indicators is based on the weighting of system events in relation to each other in order to present a coherent status of the Firewall (major alarms will have more weight than minor alarms).

System events

System indicators are linked to the monitoring of events relating to Ethernet interfaces supported by the Firewall processor.

System indicators concern:

- **Logs**: indicators relating to the occupation of space allocated to logs.
- **Ethernet**: indicators relating to interface connectivity.
- **CPU**: indicators relating to the load of the Firewall processor.
- **HA**: indicators relating to the high availability set-up, if this is present on the Firewall.
- **Server**: Indicators relating to some of the Firewall's critical servers

The display of these indicators is based on the weighting of system events in relation to each other in order to present a coherent status of the Firewall (major alarms will have more weight than minor alarms).

3.2.2.2. CPU load

This graph represents the processor's load.

- **User**: load attributable to processes that the user executes
- **Interruptions**: load represented by exchanges between the kernel and processes executed by the user
- **System events**: load attributable to the kernel

3.2.2.3. SEISMO

Vulnerabilities

Vulnerability indicators concern the following:

- Total
- Remote: refers to vulnerabilities that can be exploited remotely (via the network).
- Target server: vulnerability that affects a server application.
- Critical
- Minor
- Major
- Fixed: refers to vulnerabilities for which a fix is available.

Information

Information indicators concern the following:

- Total info
- Minor info
- Major info
- Monitored

3.2.2.4. Interfaces

List of interfaces

This section sets out the list of different interfaces (In, Out, Dmz).

Traffic by interface:

This section of the graphs represents the use of each interface on the Firewall. For every interface, four types of information are given:

- Incoming throughput: At a given moment.
- Maximum incoming throughput: Observed over the defined period.
- Outgoing throughput: At a **given moment**.
- Maximum outgoing throughput**:** Observed over the defined period.

3.2.2.5. QoS

List of QoS rules

This section sets out the list of different Qos (Qualities of service) defined on the firewall.

- DEFAULT
- HTTP
- DNS
- CIFS
- SSH_priq
- SSH_Ext
- Squid
- FTP

Traffic by QoS

- Incoming bandwidth: At a given moment.
- Maximum incoming bandwidth: Observed over the defined period.
- Outgoing bandwidth: At a given moment.
- Maximum outgoing bandwidth: Observed over the defined period.

3.2.2.6. Graphs options

Full precision for longs periods

When this option is checked, all the points in the period are taken into account. However, for very long periods, only certain significant points are taken in order to prevent the graph from getting too crammed.

Percentage of CPU up to 100%

When this option is selected, the scale at which the processor's load is plotted is dynamic. Therefore, if the processor's load is light, graphs (scale) will be adapted so that the administrator can read them. Otherwise, the maximum value of the scale will remain at 100% regardless of the maximum value obtained up until then.

CHAPTER 3: CUSTOMIZING COLUMNS AND HEADERS

The names of the following columns correspond to the data that may be consulted in **Network** logs. These columns are grouped according to the type of data, under headers.

To start customizing your headers and columns, open a log file in the **Logs** tab, click on the **Columns** button (in the action bar)**Customize**.

Figure 25: Button bar

3.3.1. Headers

Headers are thematic classifications of columns. Columns under the same header are place adjacently.

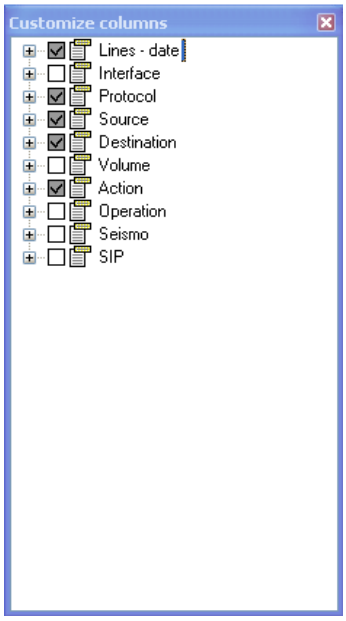


Figure 26: Customizing headers

- Lines-date: Information relating to the line and time of the packet's log
- Interface: Information relating to the interface through which the packet passed.
- Protocol: Information relating to the packet's protocol.
- Source: Information relating to the packet source.
- Destination: Information relating to the packet's destination
- Volume: Information relating to the packet's volume.
- Action: Information relating to the volumes of data in the packet.
- Operation: Information relating to the commands carried out when using protocols managed by plugins and proxies.
- Seismo: Information relating to the NETASQ SEISMO module.
- SIP: Information relating to media, caller and callee of the SIP plugin.

When you deselect an option that is linked to a header in the grid, the column will be deleted for that grid.

> **Example**
> For "Alarm" logs, you have deselcted the header **Line-date**. The header adn the options associated with it will be removed from the grid. The other log files will nonetheless maintain this header.

If you disconnect and reconnect to the firewall, changes to the customization will be saved.

3.3.2. Columns

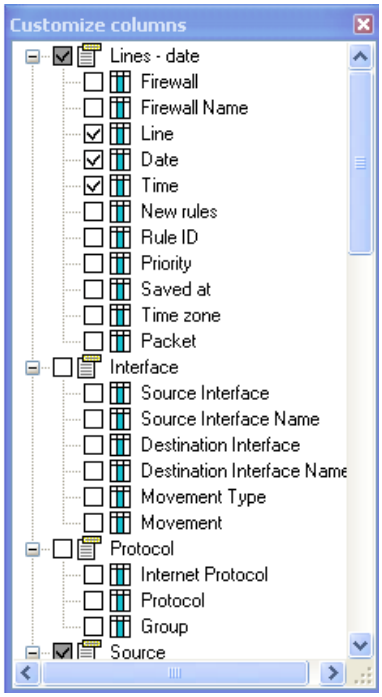


Figure 27: Customizing columns

3.3.2.1. Lines-date

- Firewall: Firewall's serial number
- Firewall name: Name of the firewall.
- Ligne: Number of the log line.
- Date: Date the log line was generated
- Time: Time the log line was generated.
- Slot level: Number corresponding to the classification of filter rules (local or global).
- Rule ID: Rule identifier.
- Priority: Alamr level (major or minor).
- Saved at: Time at which log was saved.
- Timezone: Firewall's timezone.
- Packet: Displays the packet which had raised the alarm. This feature has to be configured on Monitor in the Administration Suite.

3.3.2.2. Interface

- Source interface: Source interface's network adapter.
- Source interface name: Name of the source interface.
- Destination interface: Destination interface's network adapter.
- Destination interface name: Name of the destination interface.
- Movement type: Type of packet movement.
- Movement: Packet movement.

3.3.2.3. Protocol

- Internet Protocol: Internet Protocol
- Protocol: Base protocol.
- Group: Protocol group.

3.3.2.4. Source

- Source name: Source IP address or resolved name.
- User: Name of the authenticated user.
- Source: IP address.
- Source port name: Name of the source port.
- Source port: Source port number.

3.3.2.5. Destination

- Destination: Destination IP address.
- Destination name: Destination IP address or resolved name.
- Destination port: Destination port number.
- Destination port name: Name of the destination port.

3.3.2.6. Volume

- Sent: Amount of data sent.
- Received: Amount of data received.
- Duration: Connection duration

3.3.2.7. Action

- Action: Filter rule action: “none”, “pass”, “block”, “reset”.
- Message: Alarm.
- Help: Links to an explanation of the alarm raised.
- Alarm ID: Alarm’s identifer on the Firewall.
- Repeat: Number of times the alarm has been repeated within the duration specified in the Administration Suite.
- Rule name: This column contains the value specified in the “Name” field in the filter rule editor.
- Class: Class to which the raised alarm belongs.

3.3.2.8. Operation

- Category: Category to which the URL having caused the generation of logs belongs.
- Operation: Protocol’s identified command.
- Result: Error message return code.
- Argument: Operation’s parameter.
- Spam level: Spam level: 0 (message not considered spam) 1, 2 and 3 (spam) x (error when processing message) and ? (the nature of the message could not be determined).
- Virus: Indicates whether the e-mail contains a virus. Possible values are “safe”, “infected”, etc
- Classification: Generic category in which the alarm belongs (Examples: Protocol, Content_filtering, Web, Mail, FTP…)

3.3.2.9. Seismo

- Vuln ID: Vulnerability identifier.
- Family: Family to which the vulnerability belongs.
- Severity: Level of the vulnerability's criticality.
- Solution: "Yes" or "no", depending on whether there is a solution suggested.
- Exploit: Indicates the location where a vulnerability can be exploited (2 possible options: locally or remotely).
- Client target: Client target.
- Server target: Server target.
- Detected on: Date on which the vulnerability was detected.

3.3.2.10. SIP

- Media: Indicates the type of media (control, audio, video, etc)
- Caller: Indicates the caller
- Callee: Indicates the party being called, ie, callee

3.3.3. Sorting by columns

Logs are displayed in a table that has certain properties which enhance data reading.

Firstly, it is possible to sort the data according to type (alphabetical, date, bytes etc.), in ascending or descending order. In order to do so, click on the header of the column selected. An arrow pointing upwards or downwards enables you to confirm that the sorting has been carried out.

A grouping system, in the form of nodes, enables you to isolate the data requested. A "drop" zone is placed above the table; it reads as follows: "Drag a column header here to group by that column". In order to group together the data of any one column, select the header of the column and drag it into this zone. The table will then change its form. The grouped column appears in the drop zone and the table displays the values resulting from this grouping, in the form of nodes. A ⊞ sign appears in front of the group values, enabling the expansion of the nodes. It is thus possible to group data together within the groups.

This feature applies to all logs files (**Network**, **Services** and **Statistics**).

> **Example**
> When you select the display of Web logs, it is possible to group data firstly according to the user and then according to the destination, in order to highlight the Internet consultations carried out by internal users.

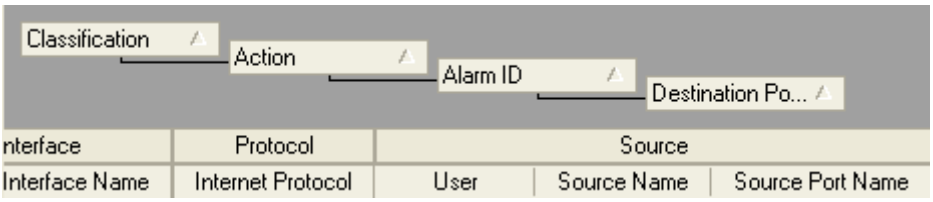


Figure 28: Sorting columns

TIP
The order of the table columns may be customized using the "drag and drop" mechanism. This can be done by right-clicking and keeping the mouse button depressed on the column whose order you wish to modify, then dropping it to its desired location. Two green arrows will help you to locate this new location.

Columns cannot be moved under a different header.

3.3.4. Contextual menu

In each log grid in Reporter, contextual menus (accessible by right-clicking with the mouse) enable the quick execution of specific actions. A maximum of three options are defined for the contextual menu (depending on the information on which you right-click):

- **Copy line to clipboard as WELF:** This option enables rewriting a line in the Reporter log grid to the clipboard to be used outside Reporter.
- **Submit URL to a category:** when you open the contextual menu after having selected a URL, this option allows sending the URL to the URL submission form on NETASQ's website.
- **Go to xxxxxx:** when you open the contextual menu after having selected a destination, this option enables an HTTP connection attempt to this destination

CHAPTER 4: LOG TYPES

NETASQ EVENT REPORTER allows you to view logs in the form of tables. These files comprise three menus:

- **Network**
- **Services**
- **Statistics**

3.4.1. "Network" logs

- **Filters**: logs generated by the filter rules. To obtain these logs, at least one of the filter rules must have the **Log** option.
- **Alarms**: alarms raised by the firewall.
- **Connections**: information on all the authorized connections having passed through the Firewall.
- **Web**: logs from visited web sites (HTTP plugin and HTTP proxy).
- **SMTP**: e-mail logs generated by the SMTP proxy. The SMTP proxy has to be activated for these logs to be available.
- **POP3**: e-mail logs generated by the POP3 proxy. The POP3 proxy has to be activated for these logs to be available.
- **Plugins**: information regarding plugins activated on your Firewall (except the HTTP plugin).
- **SEISMO**: information regarding vulnerabilities found on your network.
- **FTP:** Transferred log files (FTP proxy).
- **WELF files:** visible in the database.

(See Customizing columns and header, Part 3, CHAPTER to get a better description of the table).

3.4.1.1. Web

Right-clicking on a destination name will display the contextual menu that allows you to:

- **Submit URL to a category:** when you open the contextual menu after having selected a URL, this option allows sending the URL to the URL submission form on NETASQ's website.

This form will also enable putting a URL into a category and to submit a new URL category.

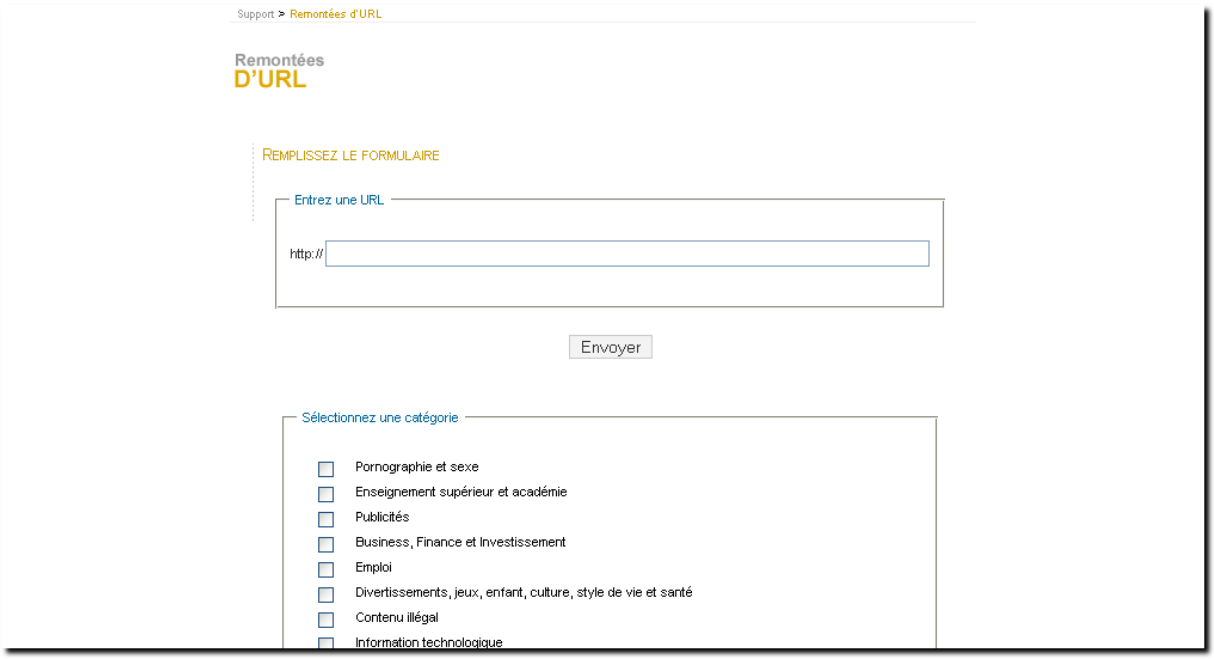


Figure 29: URL category form

3.4.1.2. SEISMO

21 fields are used:

- **Line**: Line number in the logs.
- **Date**: Date on which recorded logs were generated.
- **Time**: Time at which recorded logs were generated.
- **Internet Protocol**: Name of the internet protocol used.
- **Protocol**: Name of the protocol used.
- **User**: Connection identifier.
- **Source name**: source address of the connection.
- **Source port name**: source port of the connection.
- **Message**: command line sent to the firewall.
- **Argument**: complementary information associated with the log line (contacted web page).
- **Vuln ID**: Vulnerability identifier
- **Family**: Family type to which the vulnerability belongs.
- **Severity**: Level of criticality of the vulnerability.
- **Solution**: Indicates with a “yes” or “no” whether a solution is offered.
- **Exploit**: The solution may be accessed locally or remotely (via the network). It allows exploitation of the vulnerability.
- **Product**: Name of the client application.
- **Service:** Name of the server application.
- **Detail**: self-explanatory
- **Client target**: Client target
- **Server target**: Server target
- **Detected**: Date on which the vulnerability was detected.

3.4.1.3. FTP

11 fields are used:

- **Line**: Line number in the logs.
- **Date**: Date on which recorded logs were generated.
- **Time**: Time at which recorded logs were generated.
- **User**: Connection identifier.
- **Source name**: source address of the connection.
- **Destination name**: destination address of the connection.
- **Destination port name**: destination address port of the connection.
- **Received:** Volume received.
- **Action:** Action to perform – “Pass”, “Block” or “Scan”.
- **Message**: command line sent to the firewall.
- **Operation:** Indicates FTP commands (LIST, RETR, QUIT…)
- **Virus**: Indicates the name of the detected virus.

3.4.2. "Services" logs

3.4.2.1. Introduction

5 services are available:

- Administration.
- Authentication.
- System.
- IPSec VPN
- SSL VPN.

3.4.2.2. Administration

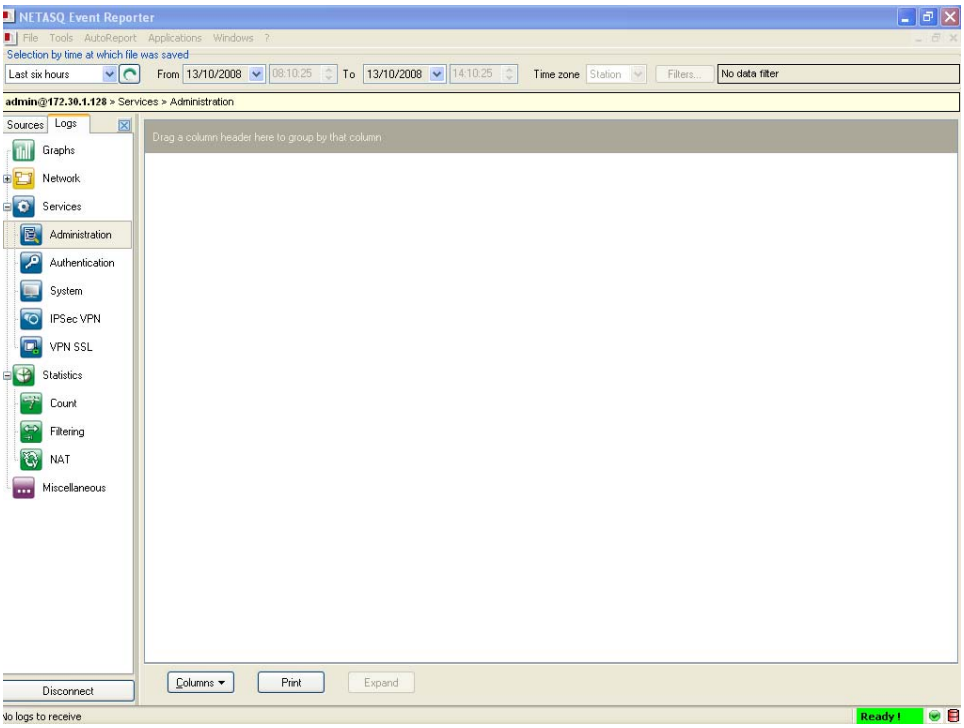


Figure 30: Administration

A history of all commands transmitted to the Firewall is given in this sub-menu.

11 fields are used:

- **Firewall**: Firewall's serial number.
- **Date**: Date on which the entry was generated
- **Time**: Time at which the entry was generated.
- **Line**: Line number in the log file.
- **Date-time**: Date and time on which the entry was generated.
- **Result**: error message.
- **User**: connection identifier,
- **Source**: connection's source address
- **Session id**: 00.0000 format. The first two digits correspond to the number times the Firewall has been reinitialized, the following 4 correspond to the number of connections on the Firewall
- **Message**: command line sent to the Firewall.
- **Timezone**: Firewall's time zone at the moment of writing the log.

3.4.2.3. Authentication

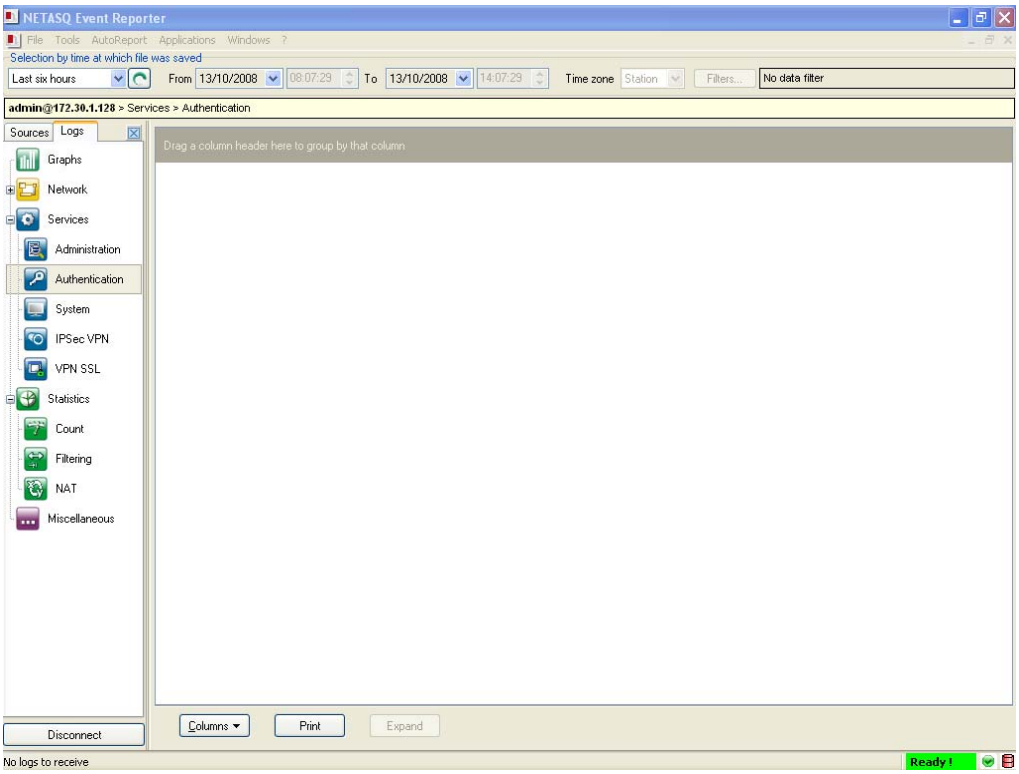


Figure 31: Authentication

This sub-menu provides a history of authentication requests.

11 fields are used:

- **Firewall**: Firewall's serial number
- **Date**: Date on which entry was generated
- **Time**: Time at which entry was generated.
- **Line**: Line number in the log file.
- **Date-time**: Date and time on which the entry was generated.
- **User**: user seeking authentication,
- **Source**: address requesting authentication
- **Method**: Authentication method
- **Result**: Error message.
- **Message**: return message for the request.
- **Timezone**: Firewall's time zone at the moment of writing the log.

3.4.2.4. System

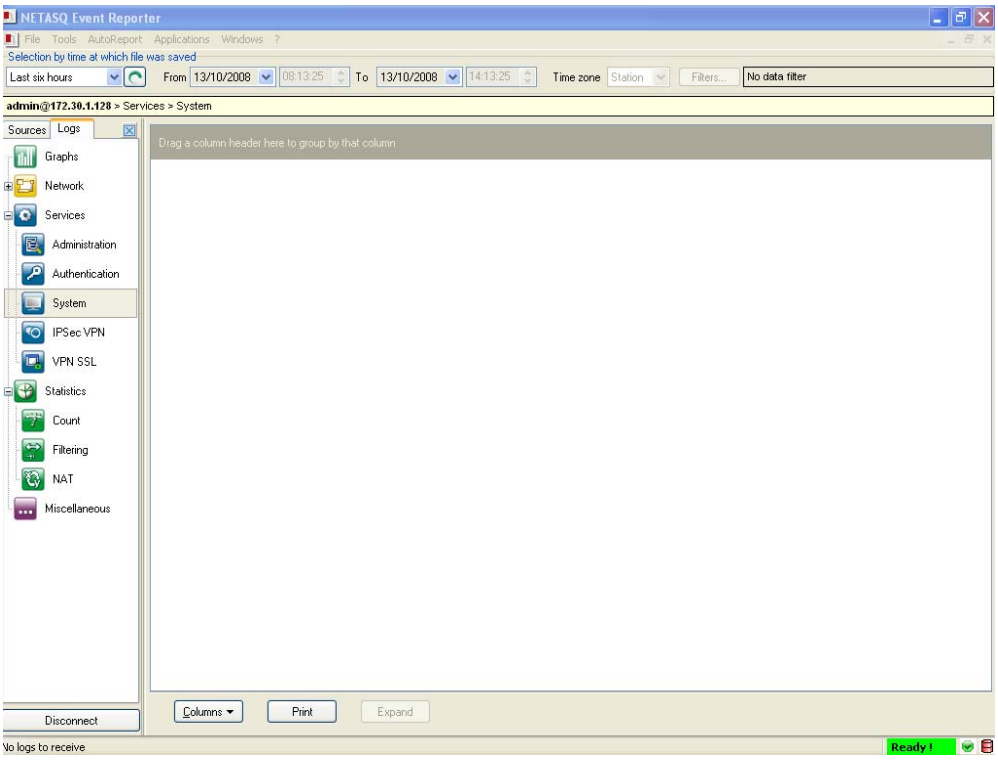


Figure 32: System

This sub-menu provides a history of messages linked to Firewall services.

7 fields are used:

- **Firewall**: When Reporter is connected to Collector, this field indicates the firewall that the displayed log line concerns,
- **Date-time**: Date and time on which the entry was generated.
- **Time**: Time at which entry was generated.
- **Date**: Date on which entry was generated
- **Service**: service associated to the message,
- **Message**: message associated to the log.
- **Timezone**: Firewall's time zone at the moment of writing the log.

3.4.2.5. IPSec VPN

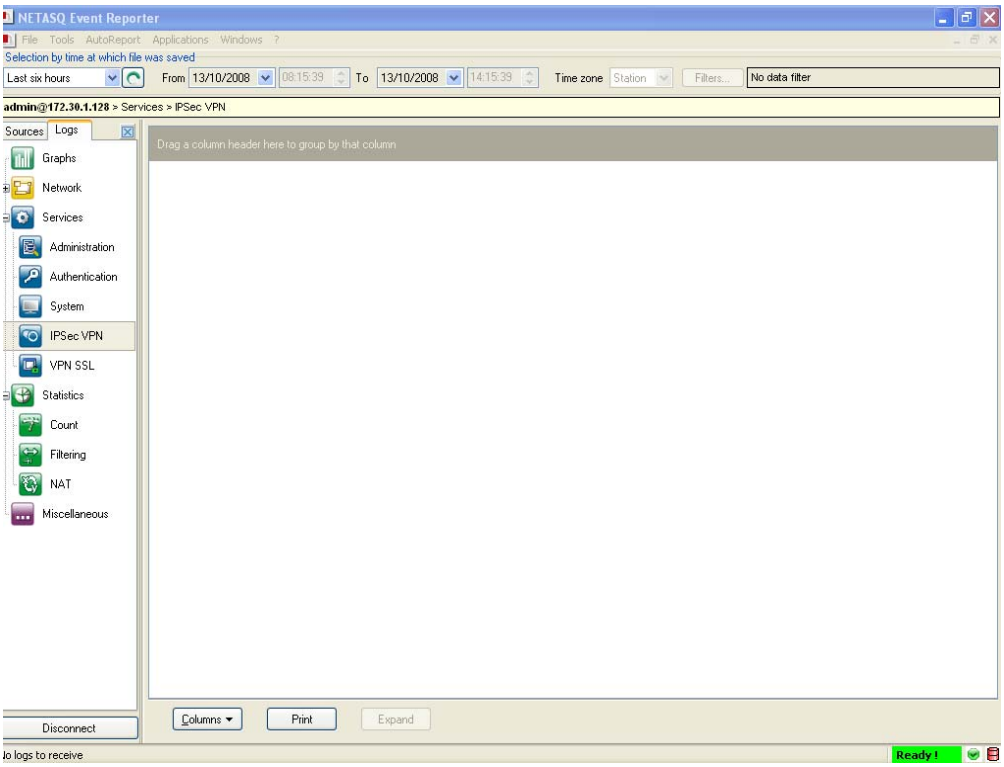


Figure 33: IPSec VPN

This sub-menu provides a history of events concerning IPSec VPN.

16 fields are used:

- **Firewall**: When Reporter is connected to Collector, this field indicates the firewall that the displayed log line concerns,
- **Line**: Line number in the log file.
- **Date-time**: Date and time on which the entry was generated.
- **Date**: Date on which entry was generated
- **Time**: Time at which entry was generated.
- **Result**: Error message.
- **Phase**: SA negotiation phase (*Corresponds to a VPN tunnel endpoint*)
- **Source**: connection's source address
- **Destination**: connection destination address,
- **Message**: Message regarding the attempt to set up a tunnel
- **Timezone**: Firewall's time zone at the moment of writing the log.
- **User**: user identifier (in the context of an anonymous tunnel),
- **Initiator Cookie**: "Initiator" identifier for the negotiation session in progress,
- **Receiving Cookie**: "Responder" identifier for the negotiation session in progress.
- **Spi in**: identifier for the ingoing SA.
- **Spi out**: identifier for the outgoing SA.

3.4.2.6. SSL VPN

This sub-menu provides a history of events concerning SSL VPN.

15 fields are used:

- **Firewall**: When Reporter is connected to Collector, this field indicates the firewall that the displayed log line concerns,
- **Line**: Line number in the log file.
- **Date-time**: Date and time on which the entry was generated.
- **Date**: Date on which entry was generated
- **Time**: Time at which entry was generated.
- **Timezone**: Firewall's time zone at the moment of writing the log.
- **Result**: Result of the SSL VPN connection to the selected server
- **Port**: server connection port.
- **Port name**: protocol generally associated with a given port,.
- **Source**: connection's source address
- **Destination**: connection destination address,
- **Destination name**
- **Message**: Message relating to the SSL VPN connection.
- **User**: user identifier.
- **Argument**: additional information regarding the log line (web page contacted)..

3.4.3. "Statistics" Logs

3.4.3.1. Introduction

3 types of statistical analyses are available:

- Counters,
- Filters,
- Address translation.

3.4.3.2. Counters

This table corresponds to the number of times a rule has been activated. To display information in this zone, the **Count** option must have been activated in the filter rules.

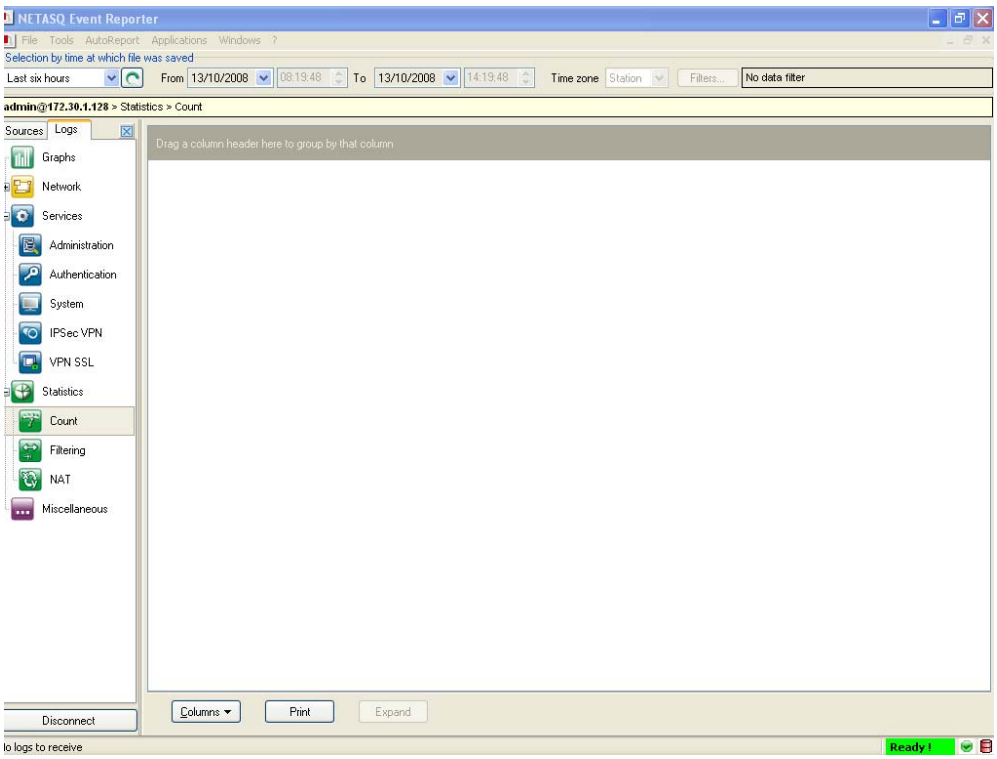


Figure 34: Count

3 fields are available:

- **Date**: Date on which entry was generated
- **Rule ID**: Rule identifier.
- **Count**: Indicates the number of megabytes.

3.4.3.3. Filters

Filter stats

- **Date**: Date on which entry was generated
- **Firewall:** Firewall's serial number or name (if known).
- **Time:** Time at which entry was generated.
- **Line:** Line number in the log file.
- **Date-Time:** Date and time on which the entry was generated.
- **Saved evaluation:** Number of rule evaluations that could not be performed because of the ASQ technology.
- **Fragmented**: Number of fragmented packets transmitted through the firewall.
- **Timezone**: Firewall's time zone at the moment of writing the log.
- **Slot**: Number of the activated policy.
- **Real host**
- **Host**: Memory allocated to a host.
- **Fragmented**: Number of fragmented packets transmitted through the firewall.
- **ICMP**: Memory allocated to ICMP.
- **Connection**: Memory allocated to connections.
- **Dynamic**: Percentage of ASQ memory being used
- **Track:** -

Memory

- **Logged**: Number of log lines generated
- **Log overflow**: Number of log lines lost.
- **Accepted**: Number of packets matching “Pass” rules
- **Blocked**: Number of packets matching “Block” rules

Rules

- **Rule (n:nn)**: Number of times that a rule has been applied to a packet. In brackets, the first number indicates the number of the policy and the second refers to the number of the rule in this policy.

Bytes

- **TCP**: Number of bytes from TCP packets transmitted through the firewall.
- **UDP:** Number of UDP packets transmitted through the firewall.
- **ICMP**: Number of ICMP packets transmitted through the firewall.

Packets

- **TCP**: Number of TCP packets transmitted through the firewall.
- **UDP**: Number of UDP packets transmitted through the firewall.

Connections

- **Rule ID**: Rule identifier.
- **Filtered:** -

Filtered

- **Facts: -**
- **Overflow**: Number of log lines lost.

> **TIP**
> If you select a line from a developed node, an explanation appears in the button bar situated below the table.

3.4.3.4. Address translation

10 fields are available:

- **Date**: Date on which entry was generated
- **Mapped to (mappedin):** Number of incoming packets translated.
- **Mapped to (mappedout):** Number of outgoing packets translated.
- **Added:** Number of new active sessions.
- **Expired:** Number of expired sessions.

- **Memory failure:** Packets that could not be translated because the limit for the table of active sessions had been reached.
- **Bad NAT:** Untranslated packets (failure during the creation of new sessions).
- **In use:** Number of active sessions.
- **Rules:** Number of active translation rules.
- **Wilds:** Number of translations marked "wild".

REMARK
The frequency of the calculation of statistics can be set in NETASQ UNIFIED MANAGER, only for the filter rules including counters; this is carried out over the period specified in the advanced options of the slot.

3.4.4. Miscellaneous

The **`Miscellaneous`** menu enables viewing several types of information.

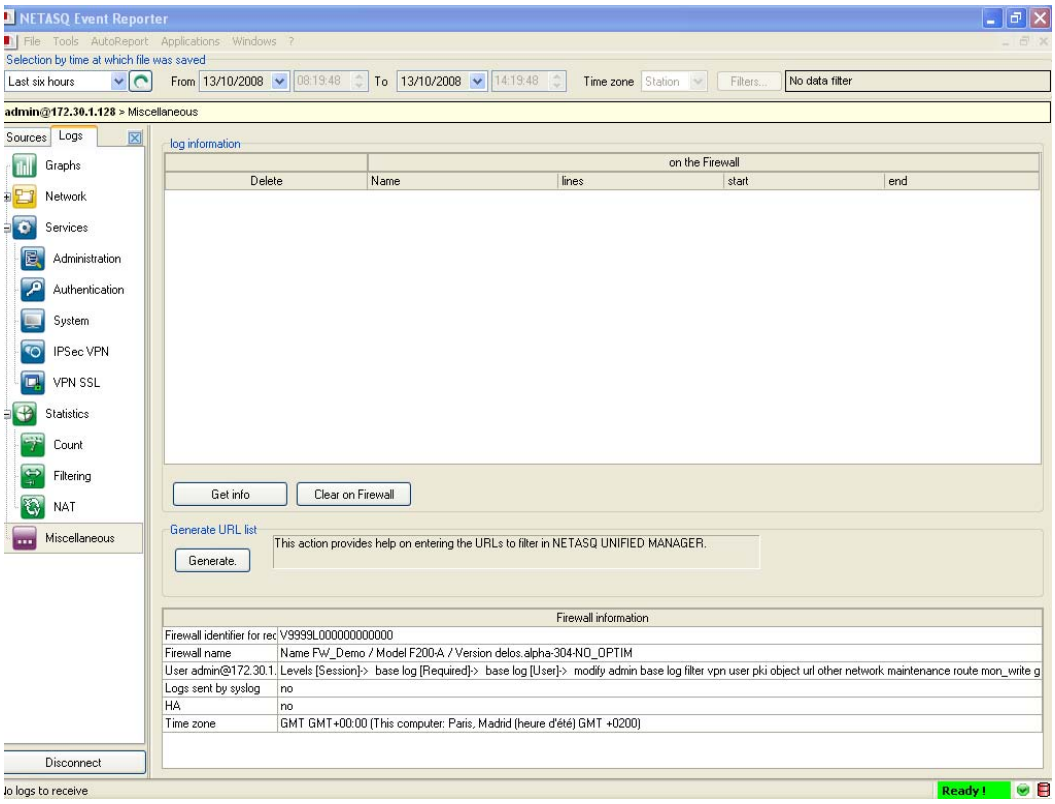

NETASQ Event Reporter
File Tools AutoReport Applications Windows ?
Selection by time at which file was saved
Last six hours
From 13/10/2008 08:19:48 To 13/10/2008 14:19:48
Time zone Station Filters... No data filter
admin@172.30.1.128 > Miscellaneous
Sources Logs
Graphs
Network
Services
Administration
Authentication
System
IPSec VPN
VPN SSL
Statistics
Count
Filtering
NAT
Miscellaneous
Disconnect
log information
on the Firewall
Delete Name lines start end
Get info
Clear on Firewall
Generate URL list
Generate.
This action provides help on entering the URLs to filter in NETASQ UNIFIED MANAGER.
Firewall information
Firewall identifier for rec V9999L000000000000
Firewall name Name FW_Demo / Model F200-A / Version delos.alpha-304-NO_OPTIM
User admin@172.30.1. Levels [Session]-> base log [Required]-> base log [User]-> modify admin base log filter vpn user pki object url other network maintenance route mon_write g
Logs sent by syslog no
HA no
Time zone GMT GMT+00:00 (This computer: Paris, Madrid (heure d'été) GMT +0200)
No logs to receive
Ready !

Figure 35: Miscellaneous

3.4.4.1. The "Log information" section

This section provides information on the number of log lines (in the database and/or on the Firewall).

This section also enables viewing the difference between logs saved on the Firewall and logs saved in the database (when a “connect to Firewall and database simultaneously” connection has been selected. A color system will highlight the lines on which there are delays.

To update information, click on the **“Get info”** button.

If you possess modification privileges, an additional column will appear, enabling the selection of logs to be deleted on the Firewall using the **"Clear on firewall"** button. Archived logs will then be deleted.

Delete	The selected line will be deleted if this option is checked.
Name	Name given to the table. This name always begins with "Log".
Lines	Total number of lines for a given table. The number of lines per day is indicated in brackets.
Start	Date on which lines started being generated.
End	Date on which lines stopped being generated.

3.4.4.2. The "Generate URLs" section

This section generates a list of web addresses visited by users in an HTML file in the case URL filtering has been activated. This list can be used to indicate to NETASQ UNIFIED MANAGER new URLs to filter.

Click on the "**Generate**" button to generate this HTML file. A screen will appear, allowing you to name the file and save it in a folder of your choice.

3.4.4.3. The "Firewall information" section

This section provides information on the Firewall to which Reporter is connected: Firewall identifer (serial number), Firewall name, username, logs sent by Syslog (if data had been retrieved via Syslog), HA: high availability status and timezone.

3.4.4.4. The "Firewall DB session list" section

REMARK
This section becomes visible when several firewalls are selected in the database.
Only if Reporter is connected to the database.

CHAPTER 5: FILTER CONSTRUCTOR

NETASQ EVENT REPORTER allows you to apply filters on columns and to carry out multi-criterion searches.

Users benefit (for search options) from the advantages of the SQL language in the database.

Example
Filtering on major alarms enables the retrieval of logs indicated as major alarms.

The "**Filters**" button in the date and filter selection barwill be enabled when you are in the database. SQL queries are built from these filters.

When you click on this button, the filter configuration screen will appear:

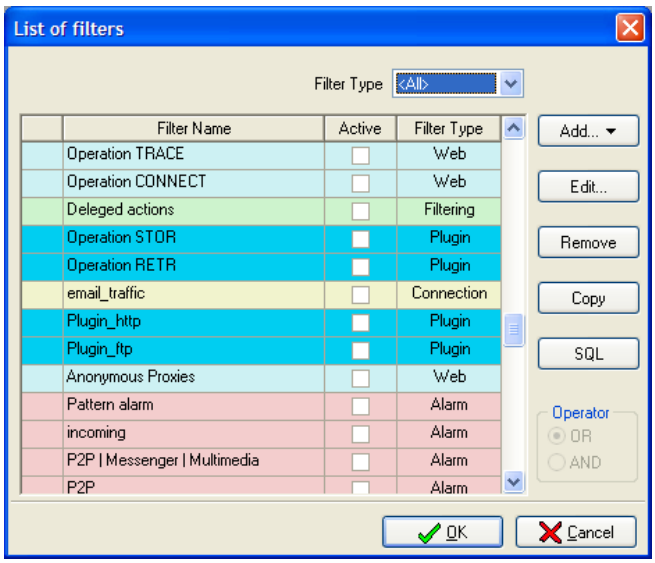


Figure 36: List of filters

You may Add, Edit, Remove or Copy a filter.

You may create simple or multi-criterion filters with the help of this filter constructor. To do so, click on the "**Add**" button to open a contextual menu which will allow you to create a simple filter or a metafilter.

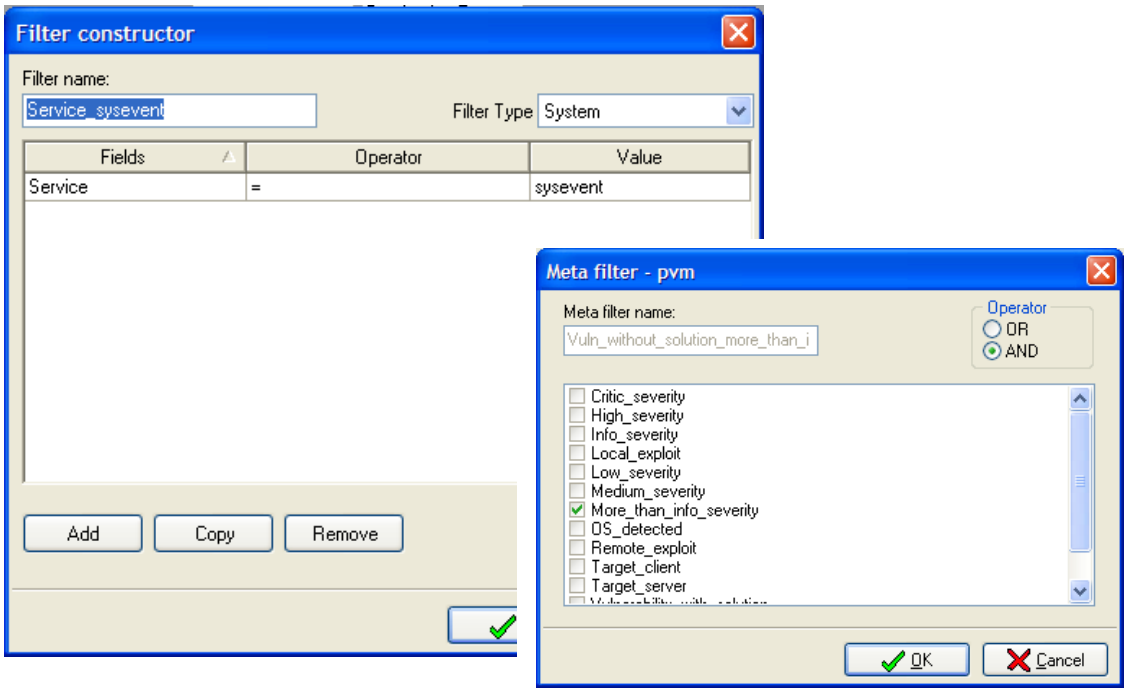


Figure 37: Filter constructor

The type of log filter can be selected in order to search according to a log type:

- <All>
- Administration
- Alarm
- Authentication
- Counters

- Connection
- Filter stats
- Filters
- FTP
- Monitor
- NATt stats
- Plugins
- POP3
- Seismo
- SMTP
- NAT stats
- Filter stats
- System
- IPSec VPN
- SSL VPN
- WEB

It is possible to apply the following operators for each field:

- **=**: the value of the field is strictly equal
- **like**: the value of the field contains a defined character chain
- **>=**: the value of the field is greater than or equal
- **<=**: the value of the field is smaller than or equal
- **not like**: the value of the field does not contain a defined character chain
- **<>**: the value of the field is strictly different
- **starts with**: the value of the field begins with a defined character chain
- **ends with**: the value of the field ends with a defined character chain
- **does not start with**: the value of the field does not begin with the character chain
- **does not end with**: the value of the field does not end with the character chain

The “Value” chain allows the value, which may be a character chain or a digital value, to be written.

Filters may be added and therefore multi-criterion searches may be created with the help of the **Add, Edit**, and **Remove** buttons, and the **Operator** with the “**OR**” or “**AND**” values.

Once the filter has been created, select the option **Active** to activate the filter, then refresh the log display.

3.5.1. Adding a filter

3.5.1.1. Simple filter

- From the list of filters, click on “**Add**” then “**Simple filter**”. The following window will appear:

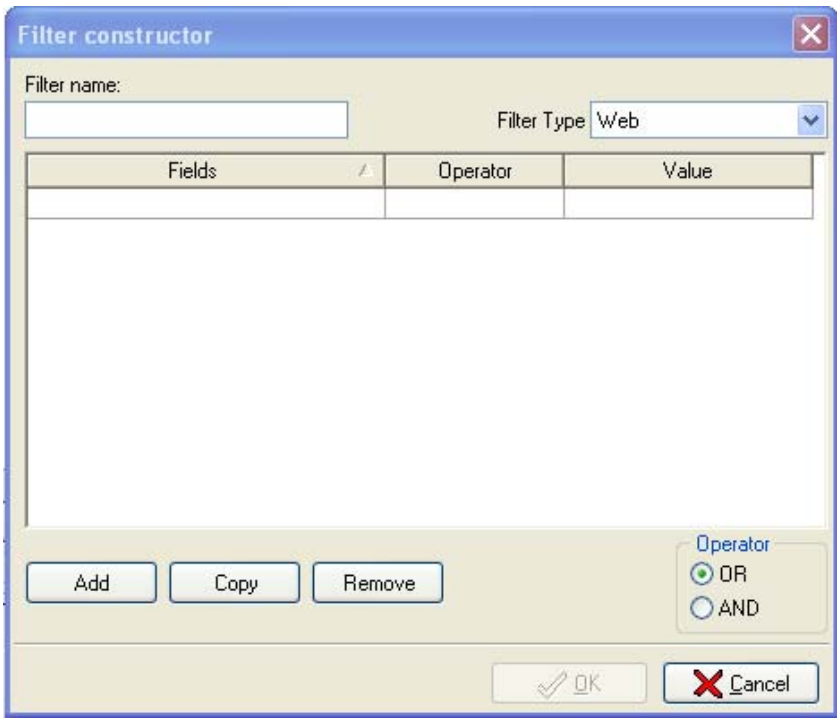


Figure 38: Filter constructor

Filter name	Indicates the name of the filter
Filter type	Selection of the filter type from the following options: “web”, “alarm”, “connection”, “filter”, “SMTP”, “Plugin”, “POP3”, “SSL VPN”, “SEISMO”, “Authentication”, “Administration”, “NAT stats”, “filter stats”, “Counters”, “System”, “IPSec VPN”, “Monitor”, “FTP”.
Fields	The fields vary according to the type of filter selected.
Operator	List of operators to apply to each field.
Value	The value may be a character string or a digital value.

3.5.1.2. Meta-filter

From the list of filters, click on “**Add**” then “**Meta-filter**”. The following window will appear:

Figure 39: Meta-filter

Meta filter name	Indicates the name of the meta filter

CHAPTER 6: DATA EXPORT

3.6.1. Export

Click on the "**Export**" button in the action bar of the **Logs** tabs to export data.

A wizard will guide you in exporting your data. Data can be exported in 4 formats:

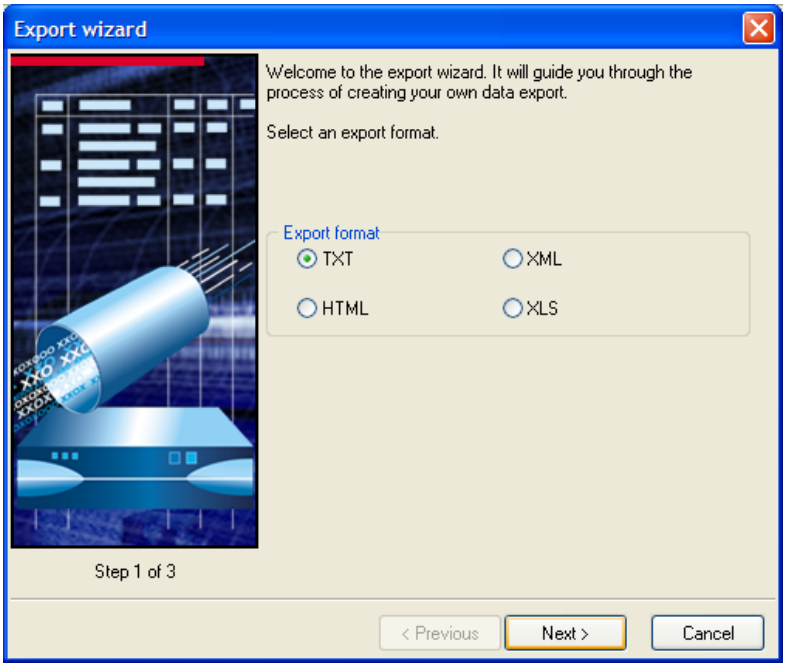


Figure 40: Export wizard - Step 1

- TXT.
- XML.
- HTML.
- XLS.

If you select the TXT format, during Step 2, the assistant will prompt you to choose a field separator as shown in the example below:

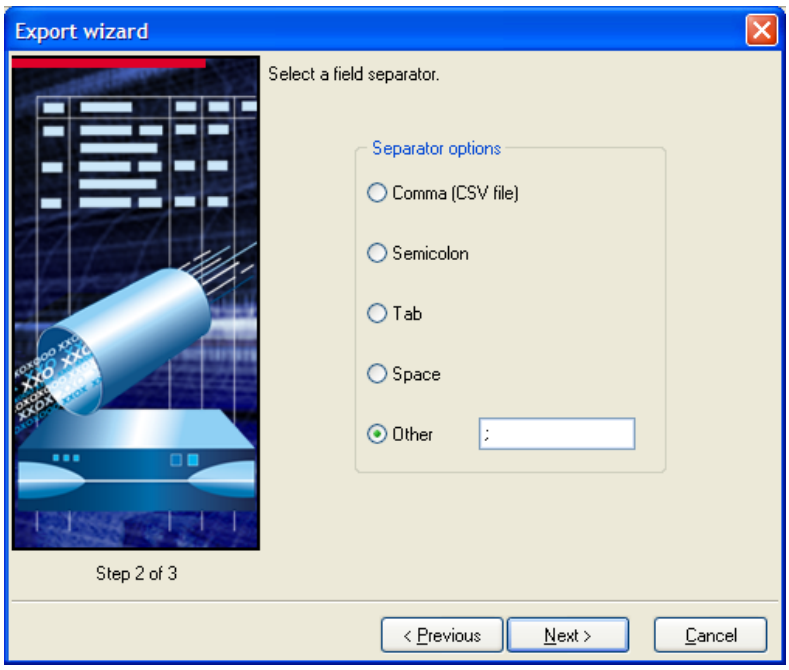


Figure 41: Export wizard - Step 2

In the last step (Step 3), the wizard will ask you to select the column headers and the columns to be exported using checkboxes.

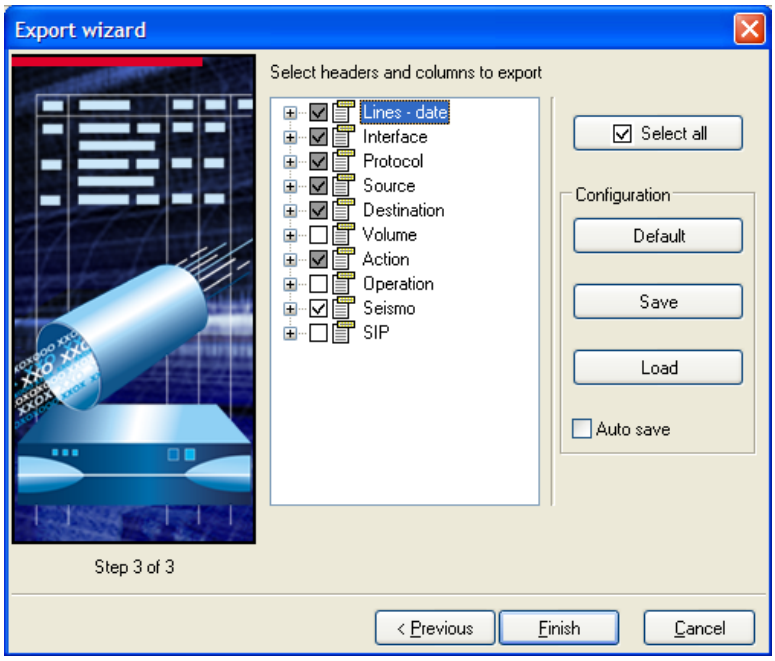


Figure 42: Export wizard - Step 3

The interface allows you to check or uncheck all the boxes, get the default selection, save/restore your column selection. Each export type has its own backup. By checking a box, you automate this operation.

When you later select the **"Finish"** button, the interface will ask you if you wish to save the generated file in a folder of your choice. This folder will be remembered for each export type.

REMARKS

1) If the Reporter connects directly to a Firewall and the number of lines to be retrieved on the Firewall exceeds 10,000, a download confirmation message will appear on the screen.
2) When Reporter connects to the database and the number of lines to retrieve from the tables exceeds 100,000, a download confirmation message will appear.

3.6.2. Log format

The logs are in WELF (WebTrends Enhanced Log Format) format.

- **id (undetermined type)**: Firewall identifier or its name when the Firewall's logs are gathered by Syslog,
- **line (whole type)**: number of the Firewall log line (alphabetical type): Firewall serial number,
- **time (Log_Time, type date)**: date of the log line,
- **pri (whole type):** priority of the event (alarm ref.),
- **srcif (alphabetical type):** source interface,
- **srcifname (alphabetical type):** interface name,
- **dstif (alphabetical type):** destination interface,
- **dstifname (alphabetical type)**: destination interface name,
- **movement (whole type)**: direction of movement (in to in, in to out, out to out, out to in),
- **MoveTypeMS (whole type):** direction of movement (Server to Server, Server to Client, Client to Client, Client to Server),
- **ipproto (alphabetical type):** Internet protocol,
- **proto (alphabetical type):** protocol,
- **src (alphabetical type):** source address (IPV6 ready),
- **srcport (alphabetical type)**: source port,
- **srcportname (alphabetical type)**: source port name,
- **srcname (alphabetical type)**: name of the source,
- **dst (alphabetical type)**: destination address (IPV6 ready),
- **dstport (alphabetical type)**: destination port,
- **dstportname (alphabetical type)**: name of destination port,
- **dstname (alphabetical type)**: destination name,
- **user (luser, alphabetical type)** ,
- **ruleid (whole type):** filter rule identifier,
- **action (chain type):** action, reserved word for interbase,
- **msg (alphabetical type):** ,
- **sent (whole type):** amount of data sent,
- **rcvd (whole type):** amount of data received,
- **duration(real type):** duration,
- **op(alphabetical type):** operation,
- **result(alphabetical type):** ,
- **arg (alphabetical type):** command parameters (of a web page).

CHAPTER 7: NETASQ LOG COLLECTOR

NETASQ Log Collector is a utility that retrieves all logs stored on NETASQ appliances or gathered by a NETASQ SYSLOG, and stores them in a PostgreSQL database.

3.7.1. Log Collector service

NETASQ Log Collector is installed as a service: "NETASQLogCollector". For the user, this mode has the advantage of running transparently (as a background task). In addition, the service continues to run even without having to open the Windows session.

NOTE
Only in Windows NT, 2000 or XP.

3.7.1.1. Installing theservice

The Log Collector service will automatically be installed upon the installation of NETASQ Log Collector if you have selected **Server** or **Full** during installation. However, it is possible to install it by launching an application found in the menu **Start\Programs\NETASQ\Administration Suite 7.0\Services\Install – Launch the Collector.**

Otherwise, the complete procedure is as follows:

1. Go to the NETASQ directory on your hard disk (as a rule **C:\Program Files\NETASQ\Administration Suite 7.0**
2. Open **InstallLaunchFwLogCollector.bat**. The command prompt window will appear.
3. Type the following installation command:

```
START /WAIT LogCollRel.exe /INSTALL /SILENT
```

4. Type the following service start-up command:

```
NET START NETASQLogCollector
```

Once the service has been installed, it will be executed at each reboot even if no session has been opened.

3.7.1.2. Uninstalling the service

The NETASQ Log Collector service may be uninstalled with the help of an application found in the menu **Start\Programs\NETASQ\Administration suite 7.0\Services\Shutdown – remove Collector**.

Otherwise the complete procedure is as follows:

1. Go to the NETASQ directory on your hard disk (as a rule **C:\Program Files\NETASQ\Administration Suite 7.0**
2. Open **UninstallFwLogCollector.bat**. The command prompt window will appear.
3. Type the following shutdown command:

```
START /WAIT NET STOP NETASQLogCollector
```

4. Type the command for uninstalling the service:

```
LogCollRel.exe/UNINSTALL/SILENT
```

REMARK
You are advised to shut down and restart the PostgreSQL service with the help of the Service Manager included in Windows NT, 2000 and XP.

3.7.2. Administration

➲ NETASQ Log Collector is configured in Reporter. You have to go to the **Tools\Collector Manager** menu in Reporter in order to do this.

> **WARNING**
> If there are windows open in Reporter when you select the **Collector Manager** sub-menu, the following message will appear:
>
> "Connected windows will be closed in order to proceed."

3.7.2.1. Connecting to NETASQ Log Collector

Connections to NETASQ Log Collector are transparent. All connetion informations are stored into the address book. A password for Log Collector is defined by default and is stored in the address book. It is possible to change this password directly but you will have also to modify the address book. By clicking on the menu **Manage Collector**, a configuration menu for Collector will appear (unless there are several collectors in the address book):

> **WARNING**
> 1) NETASQ Log Collector and Reporter are installed on the same host by default, therefore the connection address is 127.0.0.1
> 2) The Collector service is in listening mode on port 1380 by default. Don't forget to specify the connection port in the configuration of Collector if you modify it

The configuration menu of NETASQ Log Collector comprises two sections:

1 On the left, a directory of the various features in the NETASQ Log Collector menu
2 On the right, all options that can be configured

The following sub-menus are found in the NETASQ Log Collector configuration menu:

- **Activity**: this screen offers a view of NETASQ Log Collector's activity,
- **Firewalls and logs**: logs can be directly downloaded from firewalls via this window.
- **Advanced mode**: this menu allows you to configure collector,
- **Database**: this menu allows you to modify passwords and databases,
- **License**: this screen is used for inserting new licenses,
- **Connection password**: this screen is used for modifying the main connection passwords.

3.7.2.2. Activity

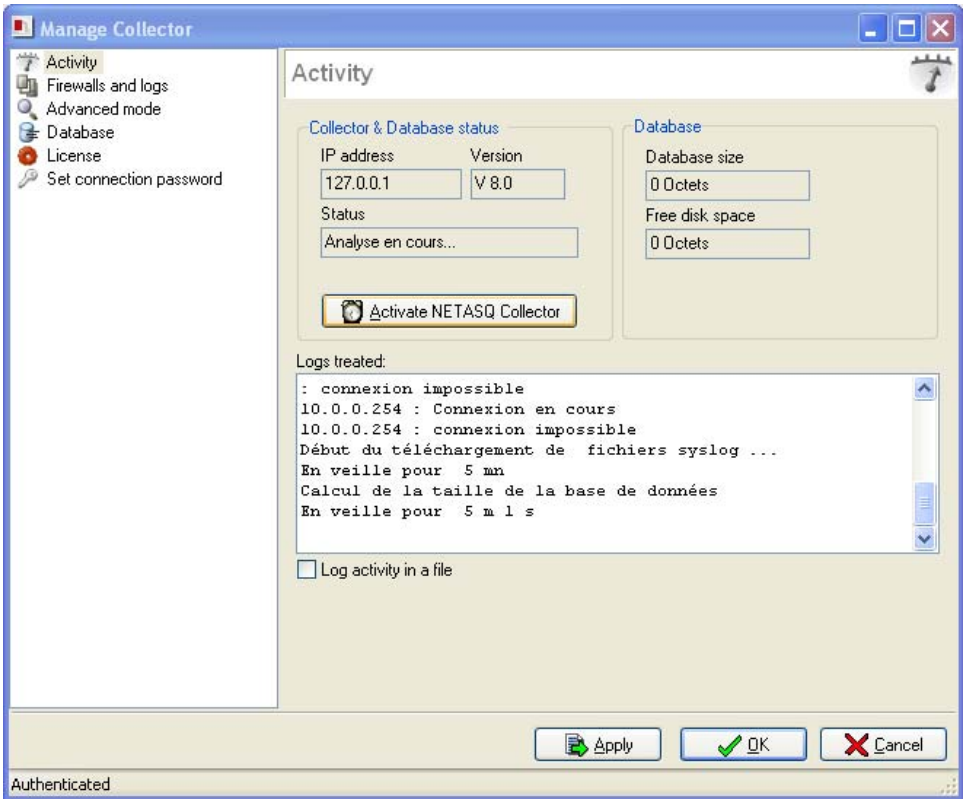


Figure 43: Manage Collector - Activity

The activity window consists of three parts:

Collector & database status

This section presents Collector's properties, its IP address, version and status. The **Activate NETASQ Collector** button allows you to refresh NETASQ Collector if it is on standby.

Database

This section provides information on the volume of the database and the available space left.

Logs treated

This section provides information on how logs are treated by NETASQ Log Collector.

The option **Log activity in a file**: when this option has been activated, all of NETASQ Log Collector's operations and error messages will be stored in a file.

3.7.2.3. Firewalls and logs

In this window, you can directly download logs on firewalls.

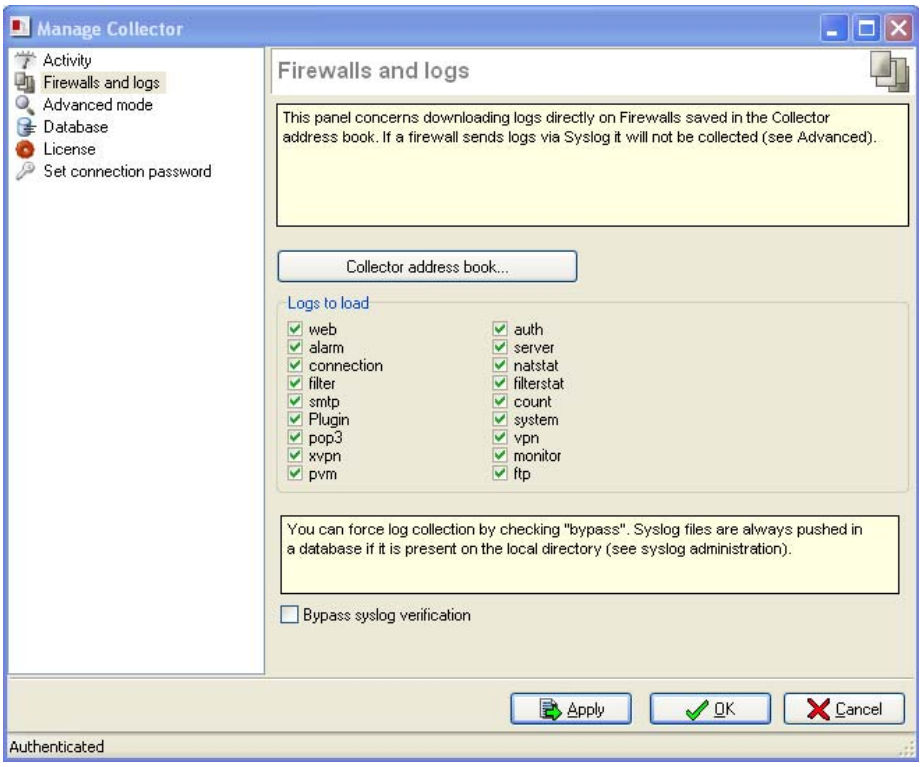


Figure 44: Manage Collector - Firewalls and logs

For NETASQ Log Collector to be able to connect to Firewalls to upload logs, it is necessary to create a user who possesses log reading privileges, and to provide the connection parameters of the Firewalls from which logs are to be retrieved, in the address book. The therefore following needs to be done:

1 Create a user in each Firewall using NETASQ UNIFIED MANAGER and assign administration privileges on the Firewall to this user: **Minimum privileges for Log and Monitor**.
2 Enter the IP address as well as the login name and password of the user created earlier in the NETASQ Log Collector address book

The address book is displayed as follows. It can be accessed through the "**Collector Address book**" button. This address book contains a list of the firewalls to which Collector will connect.

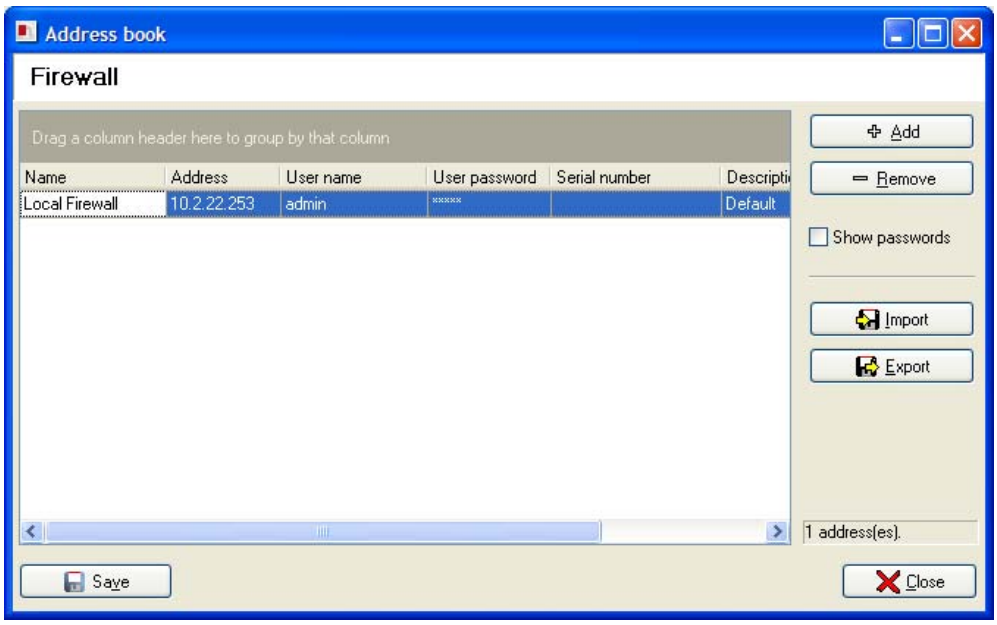


Figure 45: Address book - Firewall

When the address book is saved, the data will be encrypted in AES on your computer. In order to apply these changes, you have to send this information to Collector by using the "**Apply**" button.

REMARK

It is not necessary to provide information in the address book regarding the Firewalls on which the NETASQ SYSLOG log sending function has been activated. In fact, when NETASQ Log Collector connects to a Firewall, it checks if this option has been activated before downloading logs.

If the option has been activated, NETASQ Log Collector will not download the logs locally but directly in the Syslog directory. Therefore, the connection parameters do not have to be entered in the address book.

WARNING

If a firewall sends its logs via Syslog, logs will not be collected from this firewall.

The option **Bypass Syslog verification**: if this option has been selected, the gathering of logs will be forced on firewalls that send their logs to their Syslog. Syslog files are always inserted into the database if they are located in the local directory.

3.7.2.4. Advanced mode

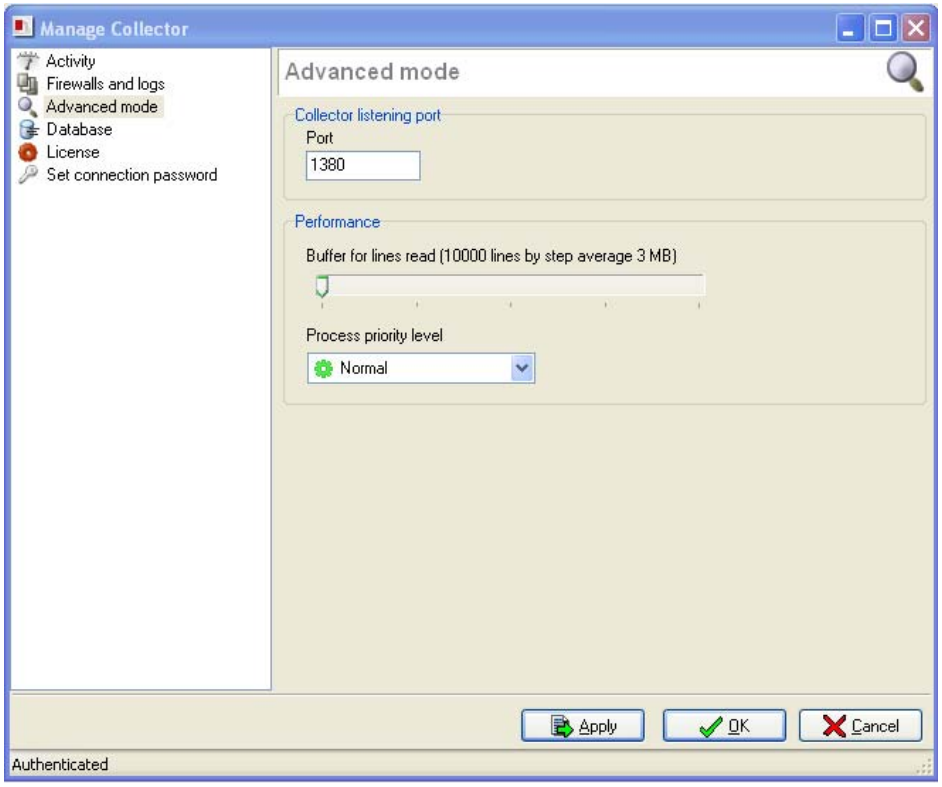


Figure 46: Manage Collector – Advanced mode

Several parameters may be configured in this menu:

Collector listening port

- **Port:** specify the NETASQ Log Collector's listening port. By default, the listening port is 1380.

Performances

- **Buffer for lines read (10000 lines by step average 3MB)**: it is possible to adjust the size of the buffer the NETASQ Log Collector uses to send logs, before their insertion into the database. The minimum size is 3 MB, i.e., 10,000 lines of log data, and the maximum size is 15 MB, i.e., 50,000 lines of log data
- **Process priority level:** Choose between Idle, Lowest, Below normal, Normal, Above normal, Highest.

Miscellaneous

- **Bypass Syslog check**: When this option is selected, the collection of logs will be forced on firewalls which send their logs in their Syslog applications. Syslog files are always inserted into the database if they can be found in the local folder.

This option allows Collector to avoid sending duplicate logs.

3.7.2.5. Database

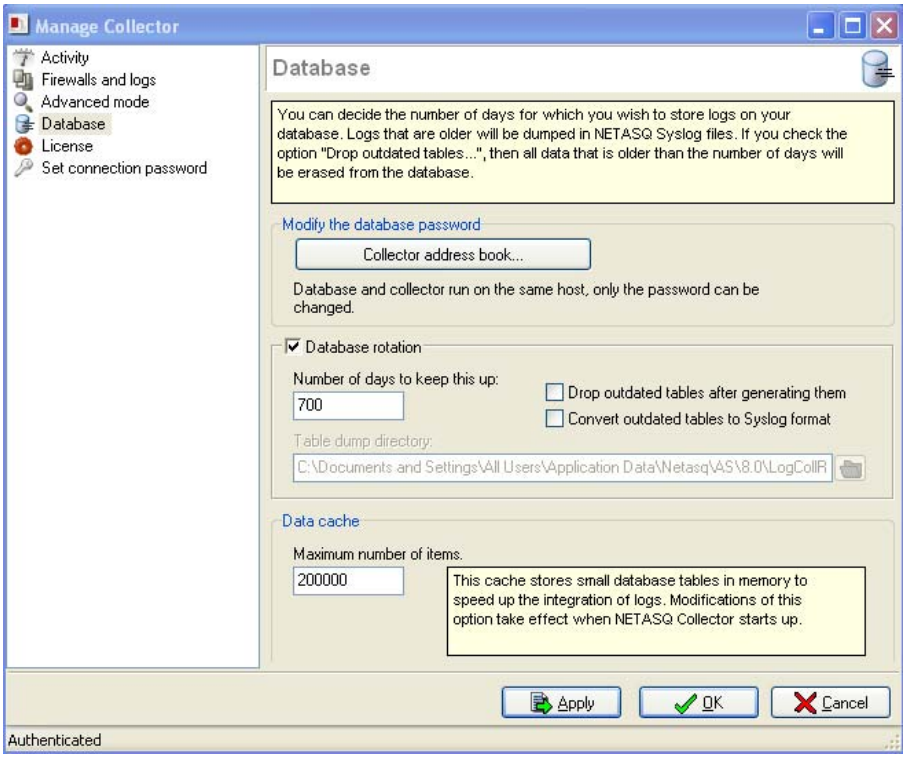

Manage Collector
Activity
Firewalls and logs
Advanced mode
Database
License
Set connection password
Database
You can decide the number of days for which you wish to store logs on your database. Logs that are older will be dumped in NETASQ Syslog files. If you check the option "Drop outdated tables...", then all data that is older than the number of days will be erased from the database.
Modify the database password
Collector address book...
Database and collector run on the same host, only the password can be changed.
Database rotation
Number of days to keep this up:
700
Drop outdated tables after generating them
Convert outdated tables to Syslog format
Table dump directory:
C:\Documents and Settings\All Users\Application Data\Netasq\AS\8.0\LogCollR
Data cache
Maximum number of items.
200000
This cache stores small database tables in memory to speed up the integration of logs. Modifications of this option take effect when NETASQ Collector starts up.
Apply
OK
Cancel
Authenticated

Figure 47: Manage Collector - Database

Modifying passwords for the database

The "**Collector address book**" button provides access to Collector's address book and displays the address of the database. Passwords for the database can be specified here.

Once inside the address book, only the password can be modified, as the database is located on the same workstation as Collector.

Select the option **Show passwords** in order to modify a password, or double-click on the "Password" field. In the latter case, a window will open.

WARNING

1) As indicated in this screen, Collector has to be shut down in order to apply the changes and passwords are transmitted over the network in plaintext.

2) You are highly advised to modify your passwords the very first time you use Reporter. The default password is "netasq" for the reporter account.

Rotating the database

By enabling the rotation of the database, data will be stored in the database for the number of days specified.

- **Number of days to keep in the database**: this field allows you to define the number of days for which the logs will be stored in the database.

- **Drop outdated tables after generating them:** This option will delete from the database logs that have been kept for more of days than what had been specified in the field "**Number of days to keep in the database**".

- **Converted outdated tables to Syslog format**: If this option has been enabled, the oldest logs will be converted to NETASQ Syslog format. In this case, you will be able to indicate the directory in which tables from the **Table dump directory** will be stored. By default, this option is selected as you are advised to keep logs. (The conversion of files takes up more volume than when the tables remain in the database, ranging from 5 to 10%).

Data cache

- This field enables managing links saved to memory in order to speed up embedding. Changes made to this field are applied when NETASQ Log Collector is started up.

3.7.2.6. License

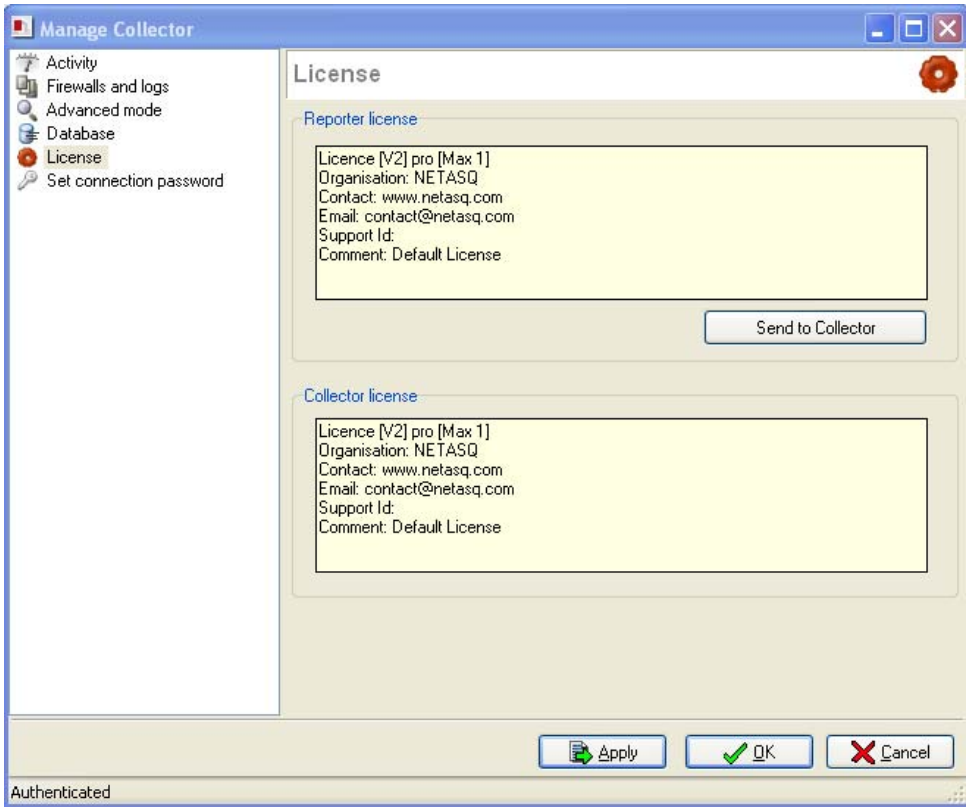


Figure 48: Manage Collector - License

You will be able to insert a new license in your Collector with this menu. This license is indispensable for activating options you wish to activate (number of Firewalls, Firewall type, etc.).

WARNING

1) To manage logs for several Firewalls simultaneously, and to guarantee better administration of the traffic passing through your Firewalls, you need an unlimited license.

2) The "**Send to Collector**" button allows you to validate a new license for NETASQ EVENT REPORTER.

The following message will appear:

"The operation was successful. Reboot the Collector service in order to validate your new license ".

The license will therefore be validated the next time Collector starts up.

3.7.2.7. Connection password

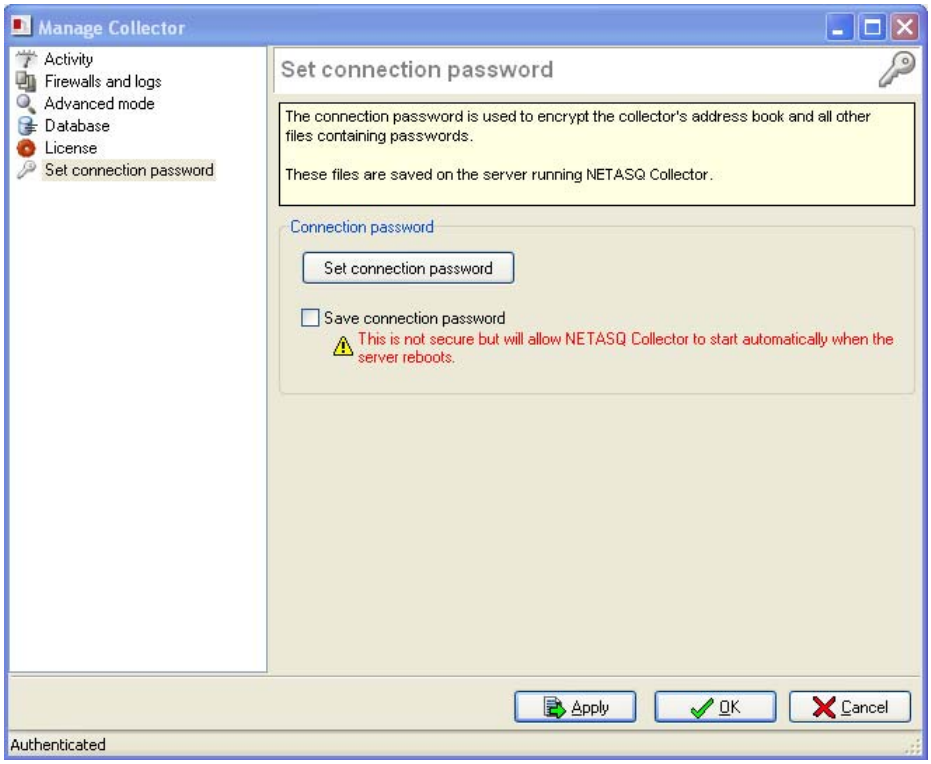


Figure 49: Manage Collector – Set connection password

This menu is used only when modifying the master password, which is used for connecting to NETASQ Log Collector as well as for encrypting database passwords.

The **Set connection password** button will open the window in which the new password will be entered.

Activating the option **Save connection password** will automatically run Collector whenever the server starts up.

WARNING

1) The default password is "NETASQ".
2) You are strongly advised to change this password the first time you use Reporter

3.7.3. NETASQ LOG COLLECTOR activity

NETASQ Log Collector collects logs sequentially: it connects in turn to each Firewall. Between each complete rotation (connection to all the Firewalls), NETASQ Log Collector goes into standby. Standby duration depends on the Firewall's activity (therefore on the number of lines of log generated). The greater the Firewall activity, the shorter the NETASQ Log Collector's standby duration will be. The standby duration may be anything between 5 seconds and 30 minutes.

CHAPTER 8: UNIX SYSLOG

If you have logs that originate from a Unix Syslog other than NETASQ's, the **Unix Syslog** menu will allow you to convert these logs into logs tat are readable by NETASQ EVENT REPORTER. Generated files will be in NETASQ SYSLOG format.

Go to the UNIX Syslog wizard via the menu **`Tool\Unix Syslog.`**

Step 1

Converting Unix Syslog
The selected files, which contain NETASQ WELF logs, have to be generated by a UNIX syslog.
select files
NETASQ
EVENT REPORTER
Generate in the source file directory
By default, files are generated in the default directory
NETASQ
Step 1 of 3
< Previous
Next >
Cancel

Figure 50: Converting Unix Syslog - Step 1

To select files generated by Unix Syslog, click on the button "**Select files**".

> **Example of a file name**
> Alarm_2007_81.log
> This corresponds to log name + year + day of the year + .log

The option **Generate in the source file directory** enables the selection of a destination other than the one specified by default.

Step 2

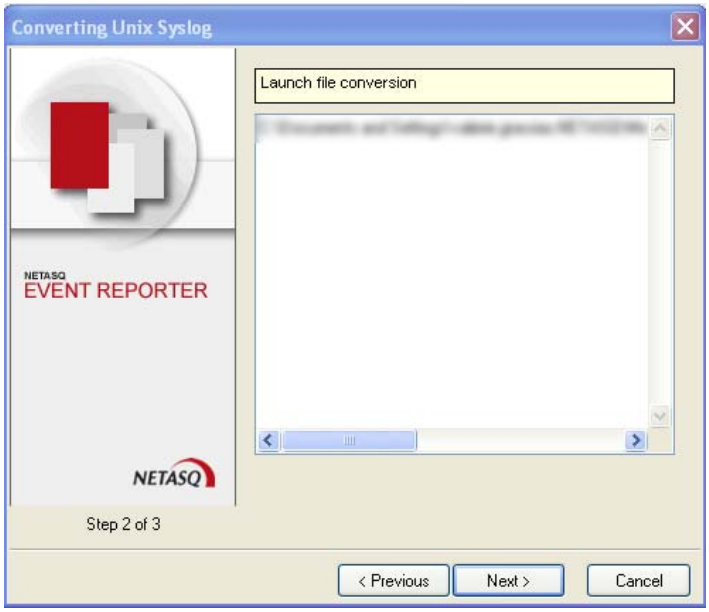


Figure 51: Converting Unix Syslog – Step 2

This window shows the location of the files to be converted into NETASQ SYSLOG files. Clicking on the **Next** button will start converting the files.

REMARK
Conversion time varies.

Step 3

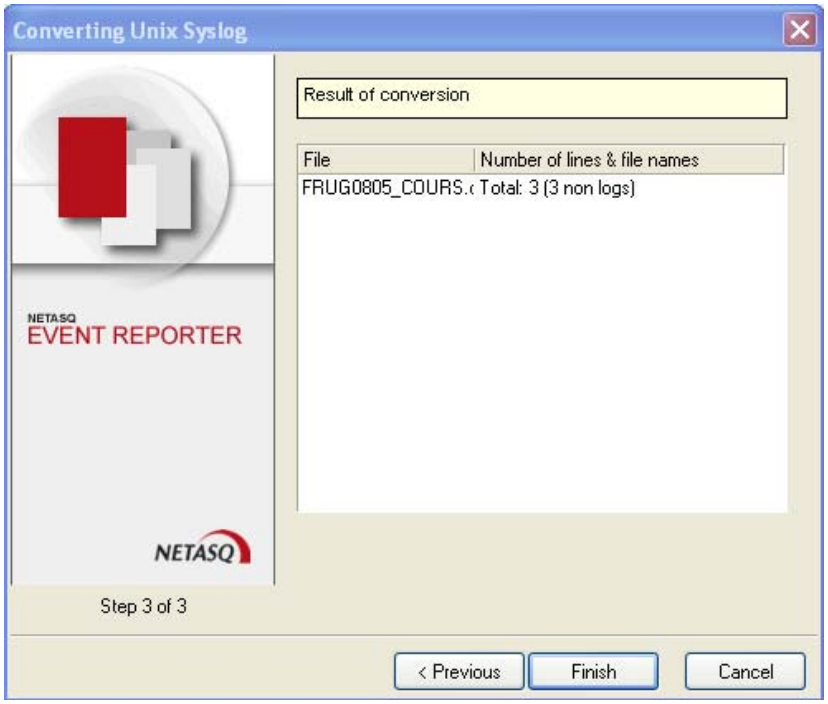


Figure 52: Converting UnixSyslog - Step 3

In the last step, results of the file conversion are displayed.

File	Names of converted files.
Number of lines and file names	Indicates the total number of lines. The number of lines that are not logs are shown in brackets.

CHAPTER 9: AUTOREPORT

3.9.1. Introduction

Logs generated by Firewalls paint a picture of the events that take place on your network. Behavior patterns in monitored traffic are exposed, as well as intrusion attempts on your network. While logs can be used for adapting the security policy to perpetually-evolving threats, they represent sensitive information which compile a comprehensive history of traffic passing through your Firewall.

Handling these logs can sometimes prove to be a daunting and tedious task, especially if the right tools are not employed. The price to pay for exhaustive log files is the sheer volume they occupy. Nonetheless, these log files very often hold the key to identifying problems on the network, and if the right tools are not used, these problems may easily go unnoticed once they are lost in the flood of information. NETASQ's range of log management tools (Reporter in standard or professional version, Log Collector and Syslog) help administrators to extract the desired information to achieve better reactivity and better results.

NETASQ's Autoreport, or automatic report generator is a new tool which administrators can access to manage their logs. Flexible and fully capable of being customized, Autoreport makes the most of logs that NETASQ Firewalls generate. The information gathered is structured in HTML reports which are divided into sections containing each a title, comments, a table and a graph). The system's flaws or inconsistencies thus appear quickly and the necessary measures to take can be worked out swiftly and accurately.

NETASQ's Autoreport is a unique report generation tool. Equipped with this tool, you will be able to analyze only the information you want to analyze. In order to do this, you first have to create sections in the report (or use the models already defined) according to your own needs. The results of your request will then be presented in HTML in the form of a graph and table, making consultation extremely easy. The table provides a quick and accurate view of the indicators you have defined and the graph gives a global view of the patterns that can be deduced from the monitored factors. Moreover, these reports are launched at a frequency that you can define.

Autoreport uses the database in NETASQ Log Collector (found in the NETASQ Reporter package) to retrieve the logs necessary for generating reports

3.9.2. Introduction to options

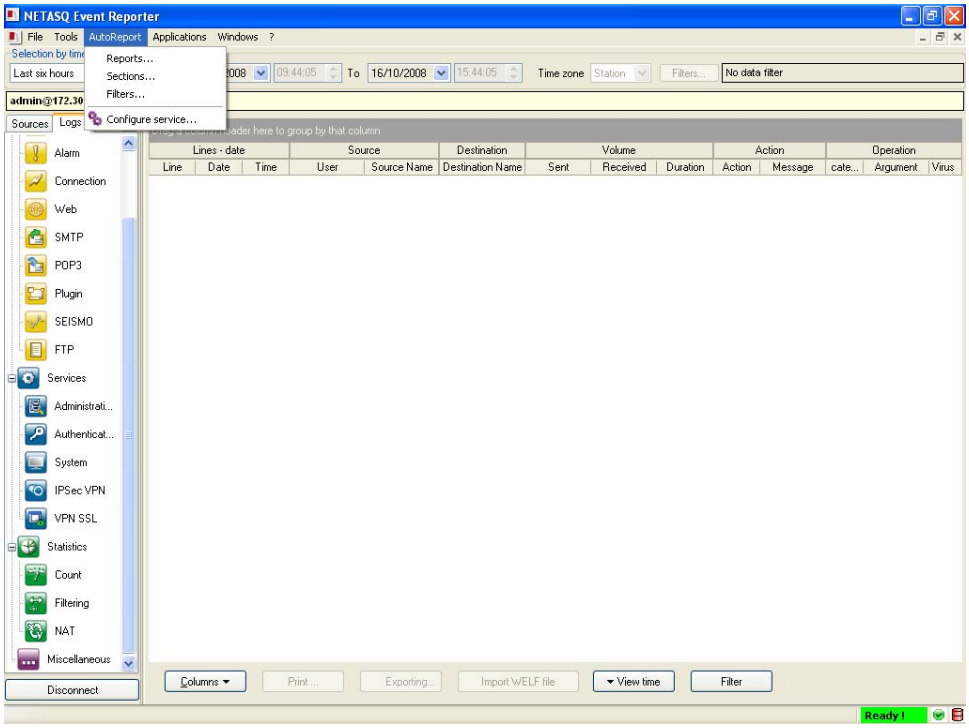


Figure 53: Autoreport menu

There are three configuration menus for AutoReport:

- **Reports**: date and frequency of report generation, the affected Firewalls, sections in the report and comments associated with the report.
- **Sections**: contents of the section, presentation of information and comments associated with the section.
- **Filters:** definition of SQL filters, by log type. Examples: selection of minor alarms only, selection of major alarms, logs from IP address x.x.x.x
- **Configuring the service**: database parameters and location of the generated report.

3.9.3. Setting up the service

The first step in using the NETASQ AutoReport tool consists of setting up the service and launching it. To ensure ease in using AutoReport, the NETASQ installation package installs and sets up the service at the same time that it installs the other selected software programs on installation.

As such, once the installation of AutoReport is complete, the service would already have been launched. You are, hwoever, free to install/uninstall and start/shut down the service.

3.9.3.1. Installing the service

While the "AutoReport Log Reporter" service is automatically installed, it can also be manually installed by launching the executable program **`Install – Launch AutoReport`** found in the menu:

- **`Start\Programs\NETASQ\Administration Suite 7.0\Services\Install-Launch AutoReport.`**

Otherwise, the full procedure is as follows:

1. Go to the NETASQ directory on your hard disk (as a rule **C:\Program Files\NETASQ\Administration Suite 7.0**
2. Open **InstallLaunchAutoReport.bat**. The command prompt window will appear.
3. Type the following installation command:

```
START /WAIT servAutoReport.exe /INSTALL /SILENT
```

4. Type the following service start-up command:

```
NET START NETASQAutoReport
```

Once the service has been installed, it will be rebooted at each startup even if no session has been opened.

3.9.3.2. Uninstalling the service

The AutoReport Log Reporter service may be uninstalled by launching the executable program **Shutdown – Remove AutoReport** found in the menu

- **Start\Programs\NETASQ\Administration suite 7.0\Services\Shutdown – remove AutoReport.**

1. Go to the NETASQ directory on your hard disk (as a rule **C:\Program Files\NETASQ\Administration Suite 7.0**
2. Open **UnInstallAutoReport.bat**. The command prompt window will appear.
3. Type the following shutdown command:

```
START /WAITNET STOP NETASQAutoReport.exe /UNINSTALL /SILENT
```

4. Type the command for uninstalling the service:

```
servAutoReport.exe /UNINSTALL /SILENT
```

You are advised to shut down and restart the PostgreSQL service with the help of the Service Manager included in Windows NT, 2000 and XP.

3.9.3.3. Configuring the service

- Go to the menu **AutoReport\Configure service...** to configure the service

Activity

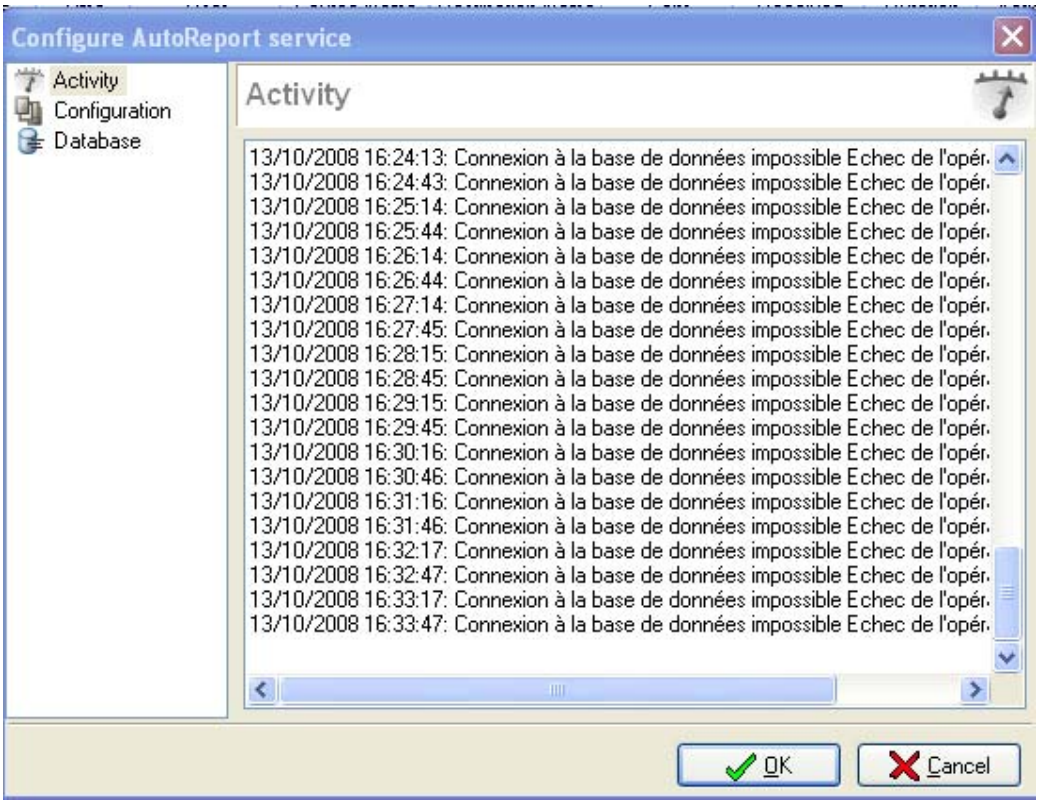


Figure 54: Configuring the Autoreport service

The service's activity zone lists the messages that the service generates when executing. The table below categorizes these messages and gives a brief explanation of each.

Loaded (x reports)	When the service starts up, it will search for reports which are currently configured.
List all reports	This message indicates that the information concerning each report found will be displayed.
Report No…	The service will indicate the number, name, frequency of generation and last generation date of each report found.
Execute report	This message indicates that the report is being generated.
Last executed	Date of the last generation of the report currently being generated.
From…to…	Period concerning the report in the process of being generated.
Execution ok	Execution of the report has been successful.
Execution NOT ok	Execution of the report has failed.
Reloaded	Every 30 seconds, the service will conduct a new search for currently configured reports.
Service Launched	The service has been executed.
Service Stopped	The service has been interrupted.
FTP errors	Since newly-created reports can be placed on an FTP server, the service sends back errors that it receives from the FTP server.

Example

23/03/2007 09:44:09: -----> Reloaded (17 reports)
23/03/2007 09:44:09: Report N° 1 "Email activity"

```
23/03/2007 09:44:09:   Last execution date 23/03/2007 01:02:43
23/03/2007 09:44:09:   Next execution date 23/03/2007 01:00:00
23/03/2007 09:44:09:   Reference date time 23/03/2007 09:44:09
23/03/2007 09:44:09:   Nothing to do.

This is what appears when a report is generated

23/03/2007 09:44:09: Report N° 7 "P2P Messenger and Multimedia activity"
23/03/2007 09:44:09:   Last execution date 30/12/1899
23/03/2007 09:44:09:   Next execution date 23/03/2007 01:00:00
23/03/2007 09:44:09:   Reference date time 23/03/2007 09:44:09
23/03/2007 09:44:09:   Execution: Reference date > Next date & Last date < Next date
23/03/2007 09:44:09:         Start Report N° 7 "P2P Messenger and Multimedia activity"
23/03/2007 09:44:09:         Last executed sam. 30/12/1899
23/03/2007 09:44:09:         Period is from lun. 12/03/2007 to dim. 18/03/2007

23/03/2007 09:44:19:         Files copied in directory D:\netasq-TRUNK\firewall\reporter\binAutoreport\Result\
23/03/2007 09:44:19:         --> Generation ok
23/03/2007 09:44:19:         End generation
```

Configuration

Autoreport allows you to define the location of generated reports. NETASQ offers three possibilities:

Local file

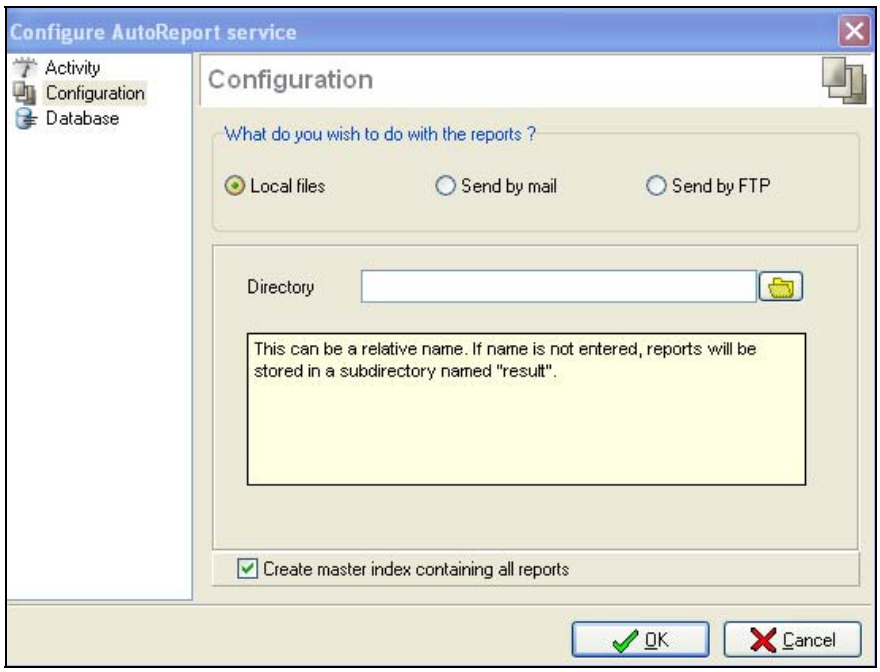


Figure 55: Configuring the Autoreport Service - Configuration

You have to specify the full path of the destination directory in the “Directory” field.

REMARK
A relative name can always be given. If the name field is left blank, reports will be saved in a sub-folder named “result”.

Sending by e-mail

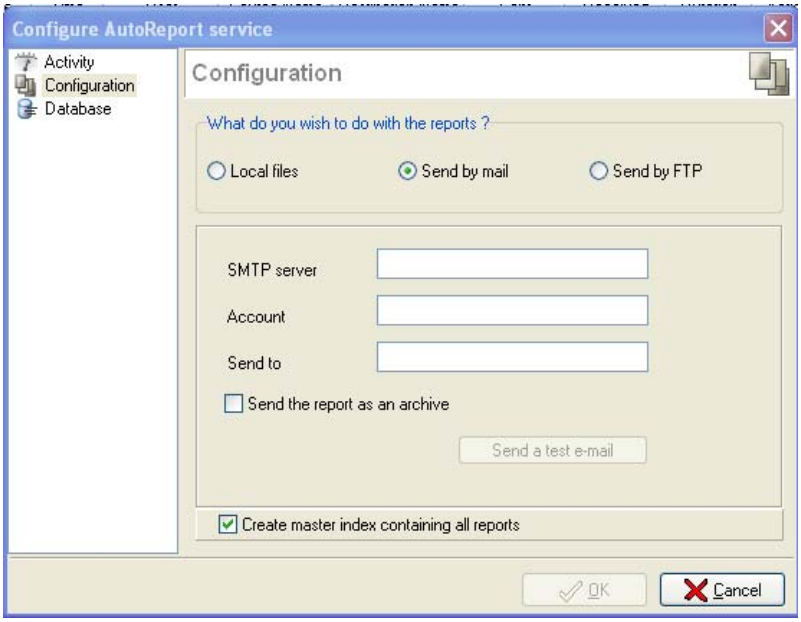


Figure 56: Configuring the Autoreport service – Sending by mail

You have to specify the sending SMTP server (IP address or hostname), your account on this SMTP server (in the form of an e-mail address) and the destination e-mail address.

The option **Send the report as an archive** allows archiving reports.

The "**Send test e-mail**" button allows you to check whether the configuration of the account is correct.

Select the option **Create master index containing all reports** if you wish to generate a main index to reference the reports. Othewsie, every report will be saved in a separate folder.

The main index would look like this if the option has been selected:

Figure 57: Available Reports

Sending via FTP

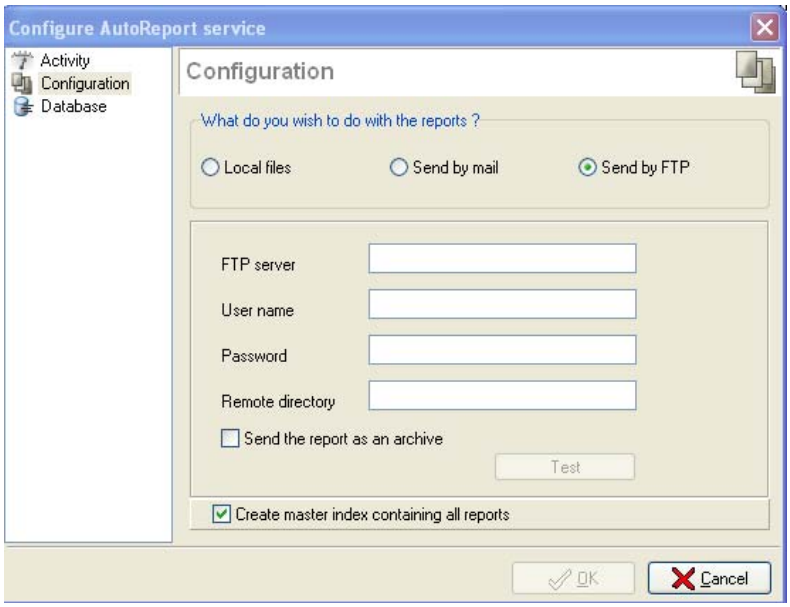


Figure 58: Configuring the Autoreport Service - Sending by FTP

You have to specify the FTP server (IP address or hostname), your login name and password on this FTP server, and the destination directory on this FTP server.

The “Test” button allows you to test the information you have provided.

Database

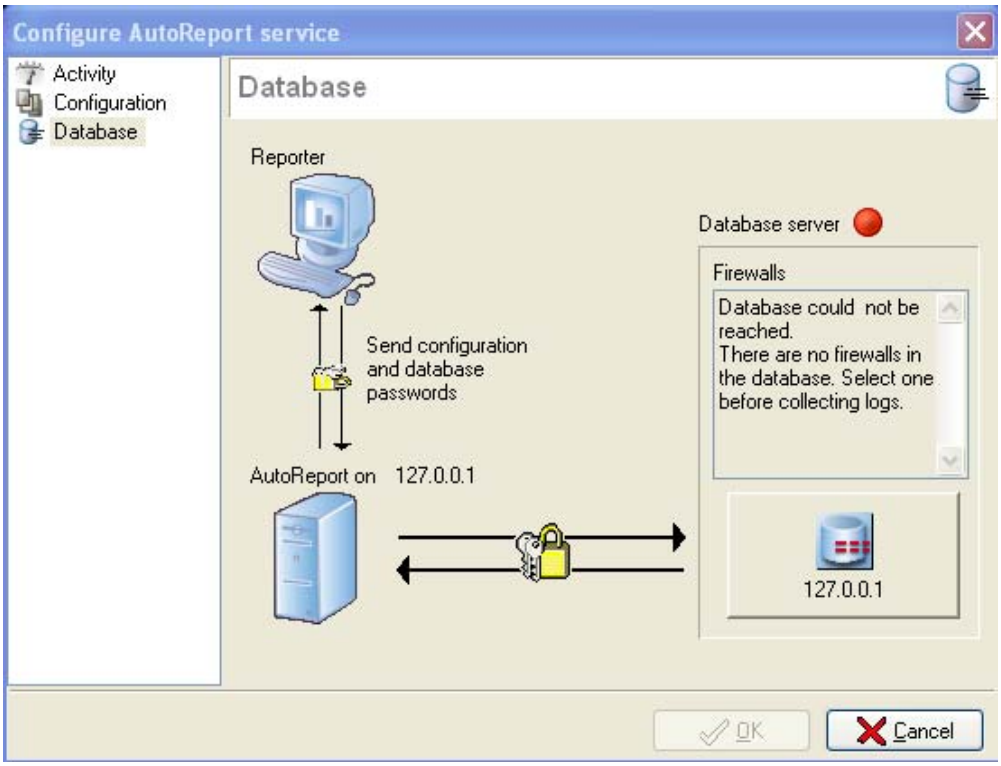


Figure 59: Configuring the Autoreport service - Database

Autoreport uses a PostGreSQL database similar to the one found in Collector to generate HTML reports. Therefore, to enable generating reports, you have to specify the information needed to access a database. Two parameters are necessary for this access – the IP address of the host where the database is located and the database's password (reminder: the default password for the Log Collector database in NETASQ Reporter PRO is "reporter").

Reminder: the default password in the NETASQ LOG COLLECTOR database is "**reporter**".

If the IP address **127.0.0.1** has been specified, Autoreport will search for a database on the host where Autoreport has been executed.

WARNING
If you have modified the password for the database, you also have to modify this password in Reporter and Collector.

3.9.4. Creating reports

Reports are created in two steps – defining sections in the reports and then assigning these sections to a report.

3.9.4.1. List of sections

When you click the menu **AutoReport\Report sections** the following window will appear:

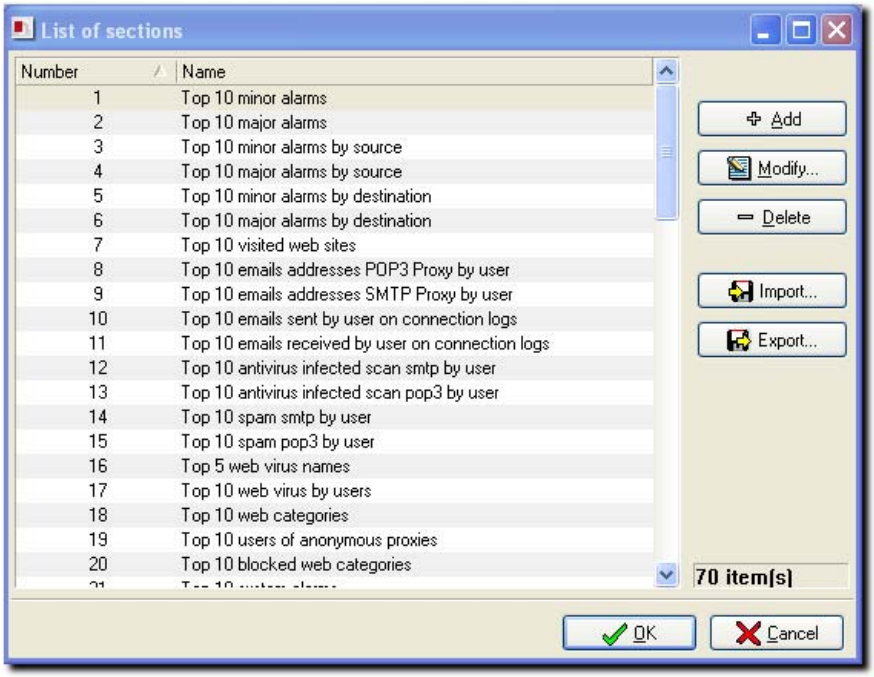

List of sections
Number
Name
1 Top 10 minor alarms
2 Top 10 major alarms
3 Top 10 minor alarms by source
4 Top 10 major alarms by source
5 Top 10 minor alarms by destination
6 Top 10 major alarms by destination
7 Top 10 visited web sites
8 Top 10 emails addresses POP3 Proxy by user
9 Top 10 emails addresses SMTP Proxy by user
10 Top 10 emails sent by user on connection logs
11 Top 10 emails received by user on connection logs
12 Top 10 antivirus infected scan smtp by user
13 Top 10 antivirus infected scan pop3 by user
14 Top 10 spam smtp by user
15 Top 10 spam pop3 by user
16 Top 5 web virus names
17 Top 10 web virus by users
18 Top 10 web categories
19 Top 10 users of anonymous proxies
20 Top 10 blocked web categories
Add
Modify...
Delete
Import...
Export...
70 item(s)
OK
Cancel

Figure 60: List of sections

The buttons on the right side of the window enable you to add, modify, delete, import or export report sections.

Adding or modifying report sections

If you click on on the **Add** or **Modify** buttons, the window showing the list of report sections will appear.

REMARK
The window title indicates whether you are creating or modifying a section.

To identify your report section, specify a title for it. Three tabs define each section:

- **Data source.**
- **Contents.**
- **Comments.**

Data source tab

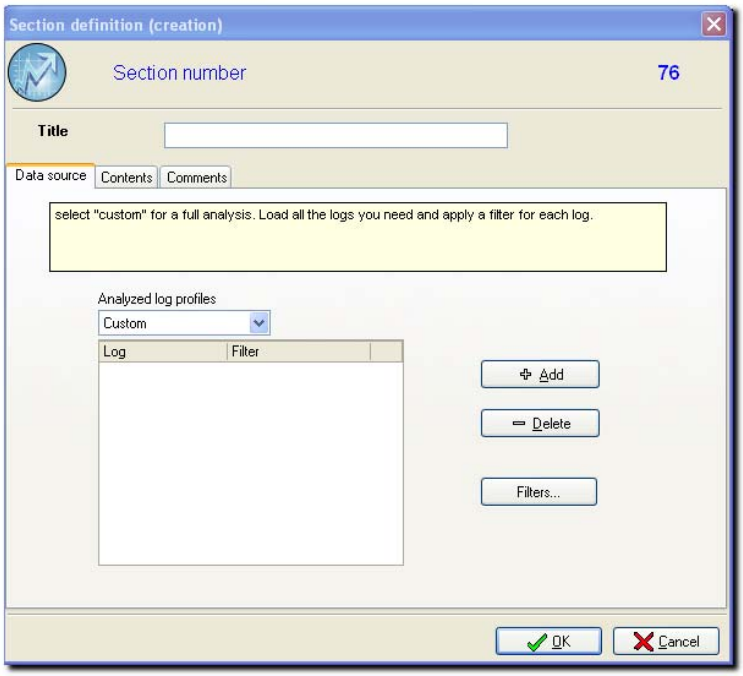


Figure 61: Section definition – Data source

Preconfigured profile

In the pop-up window “Profile of analyzed logs”, select a configured log profile from: “Major alarms”, “Minor alarms”, "Web", "E-mails", "FTP".

When you select a profile, the following message will appear:

"Assign logs from this data source by default?"

By clicking on the **Yes** button, the relevant files and filters will appear.

Example
If you select the log profile “Major alarms”, you will see the filter “alarm: major alarms”.

To define your own SQL filters, click on the **Filters** button and refer to the section ***Filter Constructor*** in this document for more information on how to create SQL filters.

WARNING
Log profiles configured by default cannot be modified.

Customized profile

You may also define your own personalized profile by selecting the option **Customize** in the pop-up window “Profile of analyzed logs”.

When you select this profile, the following message will appear:

"Assign logs from this data source by default?"

By clicking on the **Yes** button, the filter “Connection” and the protocol “Any” will appear by default. If you click on the option “Connection”, a triangle will appear, allowing you to select a file, among "Administration", "Alarm", "Authentication", "Counters", "Connection", "Filters", "Monitor", "Plugin", "Pop3", "SEISMO", "SMTP", “NAT Stats”, “Filter stats”, "System", "IPSec VPN", "SSL VPN" and "Web".

Next, select the filter you wish to match to the selected file. Filters vary according to the chosen file. Go to *Appendix B* to see this list.

To add another customized profile, click on the **Add** button

To delete a log profile, select it and click on the **Delete** button. The following message will appear.

"Delete <Log> <Filter>?"

Select the associated SQL filters. Add different filters by clicking on **Add**.

Contents tab

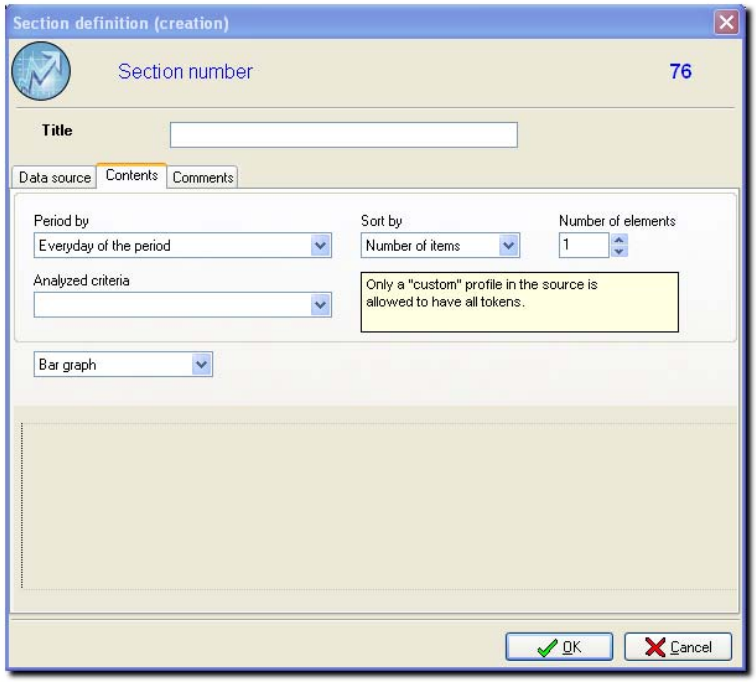
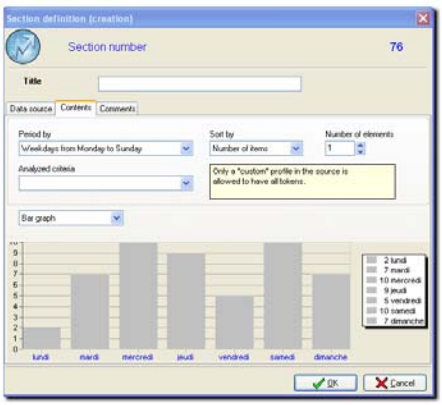


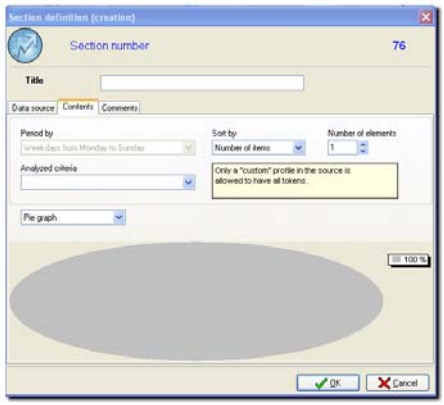
Figure 62: Section definition - Contents

Presentation of period	This option enables defining how the horizontal data scale is to be presented from the following options: **day of the period, day of the week, hour of the day, week number, month**.
Data analysis from	Defines how data is to be grouped. If you have selected a customized log profile, analyzed criteria will be possible on all fields. If you have chosen another log profile, the possible analyzed criteria are as follows: **source IP hosts**, **destination IP hosts**, **users**, **Protocol** or **Alarm ID**.
Sort by	(does not apply to alarms) Sort according to a number of items – **traffic**

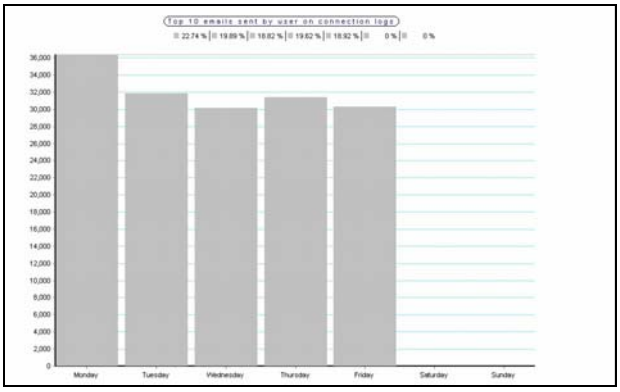
	volume, **volume sent, volume received** or **number of items**.
Number of elements	Number of groupings displayed. This enables generating “Top 5 largest” or “Top 10 largest” type of reports.
	The last drop-down menu enables choosing whether you wish to generate graphs in the report and in what form (bar charts, pie charts).

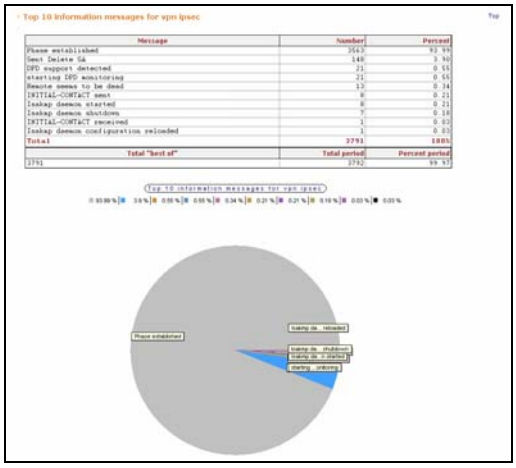
Furthermore, each graph can be displayed as a bar chart or as a pie chart.





Below is a preview of the bar charts and pie charts in a generated report:





Comments tab

In this comments zone, you can provide explanations on the report which will be displayed. Thus, you can fully customize your reports.

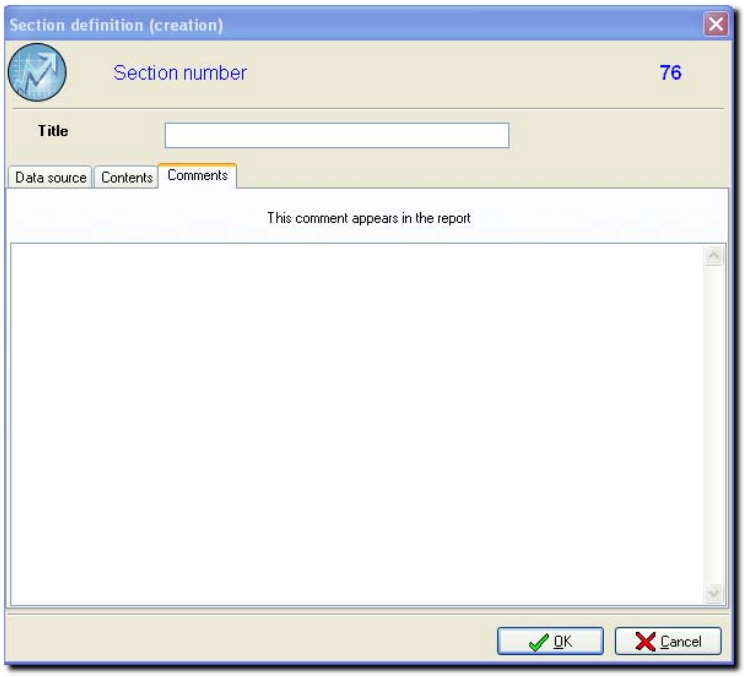


Figure 63: Section definition - Comments

Delete

To remove a section from the list, select it (the line will be highlighted) then click on the **Delete** button. The following message will appear:

"Delete the section <Section name>? The section <Section name> is included in x reports"

TIP
Several lists may be deleted simultaneously if you use the **Ctrl** and **Shift** keys.

Import

To import a list of sections, click on the **Import** button. Select the file (.txt format).

Export

To export a list of sections, click on the **Export** button. Give your export file a title and select the destination folder. This file will be saved in .txt format.
The report should look like this:

```
[Section_N1]
Name=Top 10 minor alarms
PeriodePresentation=1
WhatData=4
TypeData=0
LogProfil=1
SortBy=3
AlarmMajorMinor=0
DataDirection=0
NumberItems=10
StyleGraph=0
TokenWhatData=
Version=VERSION2
WhatLog1=alarm
WhatFilter1=Minor alarms


[Section_N2]
Name=Top 10 major alarms
PeriodePresentation=1
WhatData=4
TypeData=0
LogProfil=0
SortBy=3
AlarmMajorMinor=0
DataDirection=0
NumberItems=10
StyleGraph=0
TokenWhatData=
Version=VERSION2
WhatLog1=alarm
WhatFilter1=Major alarms


[Section_N3]
Name=Top 10 minor alarms by source
PeriodePresentation=1
```

Figure 64: Report

3.9.4.2. List of reports

This list contains 15 pre-configured reports. However, you can create reports at any time and configure them.

When you select the menu **`AutoReport\Reports`**, the following window will appear:

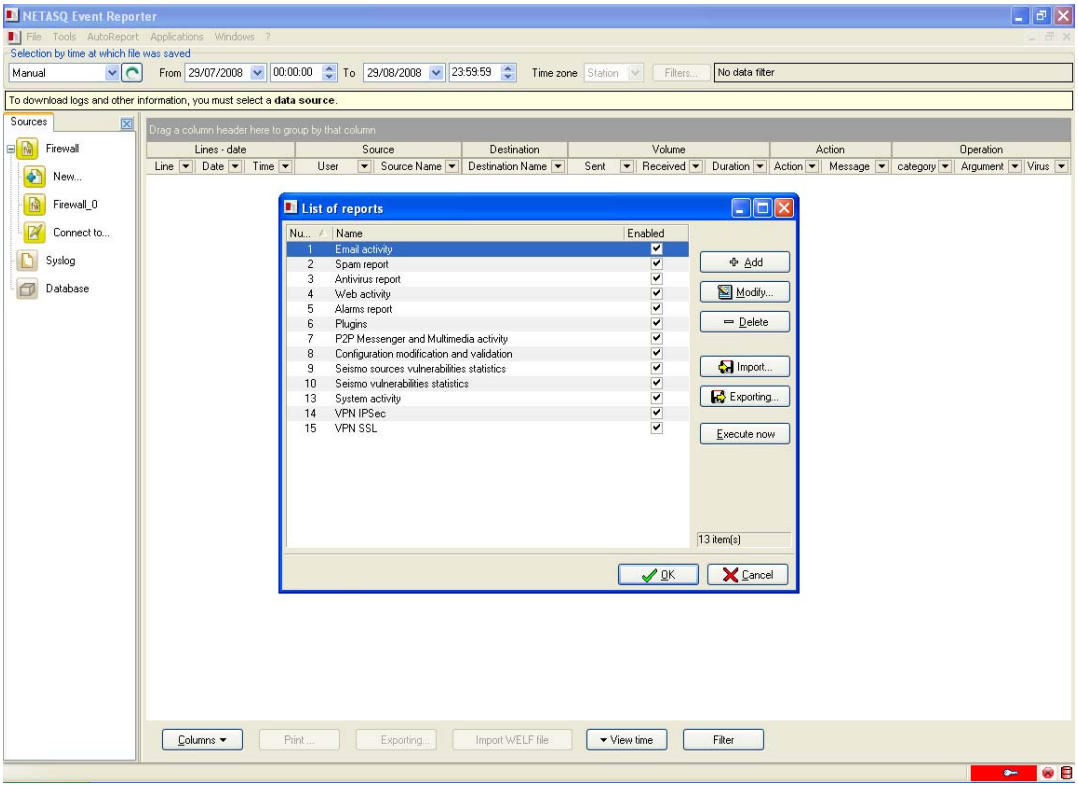


Figure 65: List of reports

The action buttons to the right of the window allow you to add, modify, delete, import or export a list of reports.

The **Generate** button will generate the report and send it according to the configuration regarding how reports are sent.

Number	Line number of the report.
Name	Report name.
Enabled	By selecting this option, you will enable the generation of reports.

Adding or modifying reports

Click on the **Add** or **Modify** buttons to add or modify reports.

Specify a name for your report in order to identify it. Each report is further defined by four tabs:

- **General**
- **Comment**
- **Sections**
- **Send**

General tab

Figure 66: Definition of reports - General

Period analyzed on	This option enables specifying the period to analyze by selecting the relevant time slot (by day, by week or by month).
Execute every	This option enables defining the day for generating the report, either daily, weekly or monthly. The dynamic zone below the option **Execute every** summarizes the

	configuration. The date of the last execution can be reset using the **Reset** button of the same name.
Firewalls analyzed	The list of Firewalls that the report concerns is taken from the database. As long as Autorport is unable to connect to the database, this list will not appear.

Comments tab

In this comments zone, you can provide explanations on the report which will be displayed. Thus, you can fully customize your reports.

Figure 67: Definition of reports - Comments

Sections tab

This tab enables defining the sections presented in the report from the sections previously defined. (see the **List of report sections** in this manual).

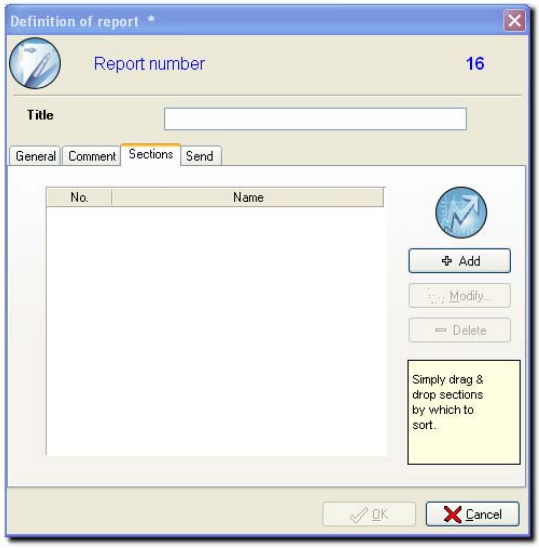


Figure 68: Definition of reports - Sections

You will be able to:

- **Add** one or several sections in the report.
- **Modify** the report section in the list.
- **Delete** a report section from the list.

The **Add** button will open the window showing the list of section. As such, you will define the section that will go into the report.

The screen captures below show you the sections in a report generated in html and the configuration made in AutoReport.

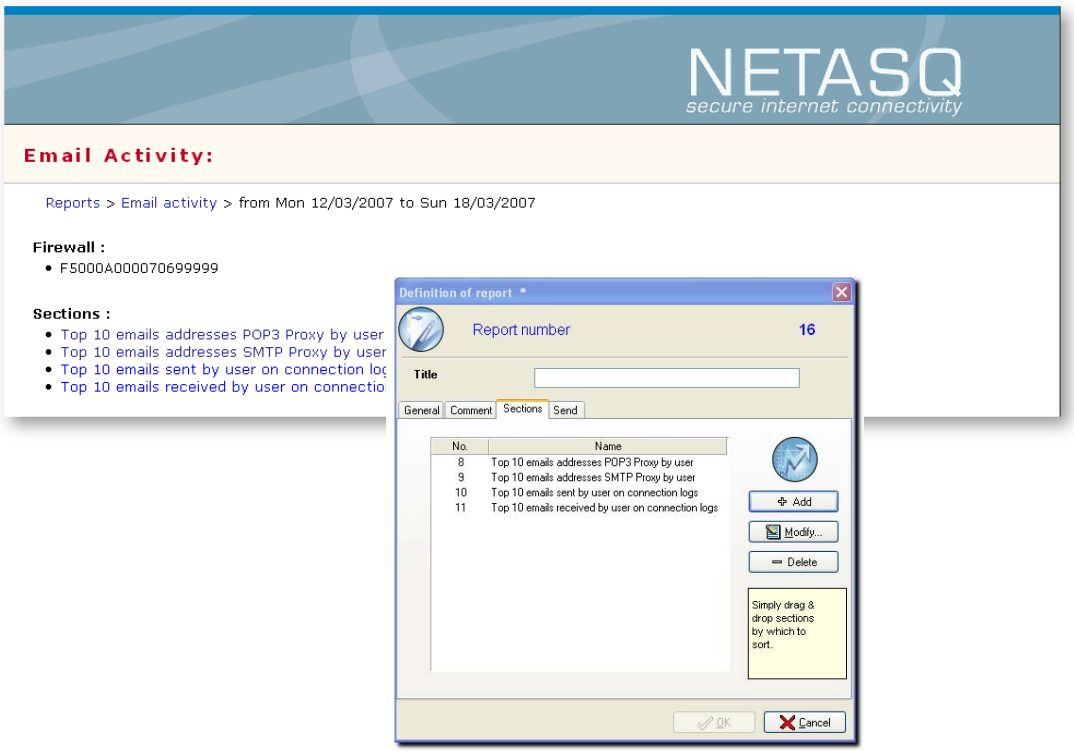


Figure 69: Reports

Before adding a section to a report, elements in its configuration can be added or modified (data sources, contents or comments).

TIP
The list of sections can be reorganized by dragging and dropping items.

Send tab

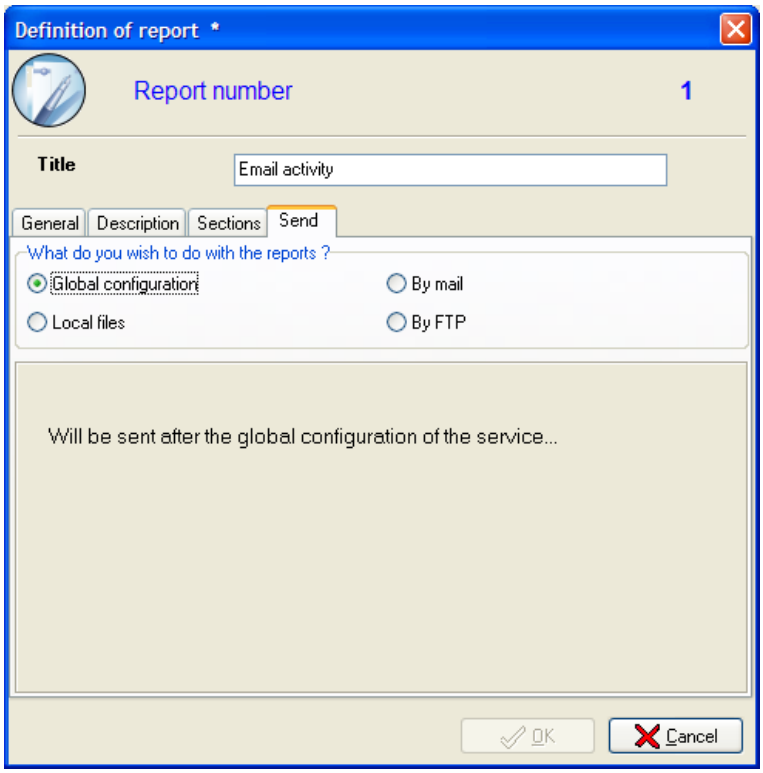


Figure 70: Definition of reports - Send

Although it is possible to globally define where and how generated HTML reports will be saved, it is also possible to define a different method from the global method.

Global configuration	If you specify this sending method, the HTML report will be generated and saved according to the method you have defined in the service configuration.
Local file	You have to specify the full path of the directory, failing which reports will be saved in a sub-folder named “result”.
Send via e-mail	You have to specify the sending SMTP server (IP address or hostname), your account on this SMTP server (in the form of an e-mail address) and the destination e-mail address.
Send via FTP	You have to specify the FTP server (IP address or hostname), your login name and password on this FTP server, and the destination directory on this FTP server. You may archive your report by checking the option **Archive report**. The **Test** button allows you to check the FTP server’s configuration.

Deleting a list

To remove a list of reports, select it (the line will be highlighted) then click on the **Delete** button. The following message will appear:

"Delete report <title of report>?"

TIP

Several lists may be deleted simultaneously if you use the **Ctrl** and **Shift** keys.

Importing a list

To import a list of reports, click on the **Import** button. Select the file (.txt format).

Exporting a list

To export a list of reports, click on the **Export** button. Give your export file a title and select the destination folder.

This file will be saved in .txt format.

The report should look like this:

```
[Report_N1]
Name=Email activity
PeriodeAnalysed=1
MultiplePeriode=1
Frequency=1
DayFrequency=1
TimeToExecute=0
Status=executed
ImmediateExecution=0
HowToSendRep=0
DirectoryREP=
SendToREP=
AccompteREP=
SmtpServerREP=
AdressFTPREP=
UserFTPREP=
PassFTPREP=
RemoteDirREP=
SectionBelong=8,9,10,11
SendAsArchive=0

[Report_N2]
Name=Spam report
PeriodeAnalysed=1
MultiplePeriode=1
Frequency=1
```

Figure 71: Report

Executing

The **Generate** button allows you to generate the selection of reports according to the configuration selected for sending reports (locally, by e-mail or via FTP).

PART 4: NETASQ SYSLOG

The NETASQ Firewall administration graphical interface is complemented by a log retrieval utility. This utility, NETASQ Syslog, allows you to retrieve logs generated by the Firewall in order to use them later.

The advantage of NETASQ SYSLOG

Some NETASQ products have no hard disk (U30 and U70), so logs cannot be stored locally on the Firewall. The logs must be redirected to external equipment.

When NETASQ SYSLOG is installed on the administration machine, logs are recovered and stored on this machine.

> **WARNING**
> If you attempt to install a new version of NETASQ SYSLOG while an older version is still installed as a service, you have to shut down the service and uninstall it (via the command line procedure, see Syslog Service section).

If this is not done the Windows installation management database and registry database may be corrupted.

> **WARNING**
> The administration host must be well protected as logs are stored in plaintext on the administration host (likewise for logs in a classic Syslog). The encryption key for traffic between NETASQ SYSLOG and the Firewall is also stored in plaintext on the host. Access to the administration host therefore has to be highly restricted and any Windows session must be locked when not in use.

CHAPTER 1: INSTALLATION

Given that the software has to be installed on the same workstation as the Firewall's administration interface, the same software and hardware conditions as for the NETASQ Unified Manager are required.

4.1.1. Procedure

1. Retrieve the Administration Suite setup file from NETASQ's website or from the CD-ROM delivered with the Firewall, and execute this file. When you are offered a choice of installation, select "full installation" (in this case, all the Administration Suite software will be installed) or select a customized installation and select NETASQ SYSLOG from the list of applications.
2. Execute this file on the administration host in order to launch the installation.
3. Installation takes place in the same way as a standard software installation.

NETASQ SYSLOG will run by default each time a Windows NT or 2000 session is opened and every time Windows 95 or 98 is rebooted (NETASQ SYSLOG therefore behaves like a service). Under Windows NT and 2000, you can install NETASQ SYSLOG as a service (see ***Syslog Service*** section).

WARNING

If you attempt to install a new version of NETASQ SYSLOG while an older version is still installed as a service, you have to shut down the service and uninstall it (via the command line procedure, see Syslog Service section below). If this is not done the Windows installation management database and registry database may be corrupted.

4.1.2. SYSLOG Service

NETASQ SYSLOG can be installed as a service. This mode has the advantage of total transparency for the user (as a background task). In addition the Syslog service keeps running even without opening a Windows session

WARNING

The following procedures only concern Windows NT, XP and 2000 platforms. In Windows 95 and 98, NETASQ SYSLOG is installed by default as a service which is launched each time the host is rebooted (without opening a session)

4.1.2.1. Service installation procedure

The Syslog service can simply be installed by launching the executable file **Install – Launch Syslog** via the menu **Start\Programs\NETASQ\Administration Suite 7.0\Services\Install - Launch Syslog.**

Otherwise, the complete procedure is as follows:

1. Go to the NETASQ directory on your hard disk (as a rule **C:\Program Files\NETASQ\Administration Suite 7.0\Services\Install – Launch Syslog.** The command prompt window will appear.
2. Type the following installation command:

```
START /WAIT FwSyslog. /INSTALL /SILENT
```

The service will start running automatically.

You are advised to reboot the workstation after installing the Syslog service.

Once installed, the service will start up every time the machine is booted, even if no session is open.

WARNING

Remember to change the NETASQ SYSLOG options so that it does not run automatically every time a session is opened (see Configuration section).

4.1.2.2. Shutting down the service mode

The Syslog service may be uninstalled simply by selecting **Shutdown – remove Syslog** found in the menu **Start\Programs\NETASQ\Administration suite 7.0\Services\ Shutdown – remove Syslog**.

Otherwise the complete procedure is as follows:

1 Go to the NETASQ directory on your hard disk (as a rule **C:\Program Files\NETASQ\Administration Suite 7.0\Services\Shutdown – Remove Syslog.** The command prompt window will appear

2 Type the command for uninstalling the service:

```
START /WAIT NET STOP NETASQSyslogFwSyslog.exe /UNINSTALL /SILENT
```

WARNING
It is important to reboot the workstation in order to apply this uninstallation.

CHAPTER 2: CONFIGURATION

4.2.1. Configuring NETASQ UNIFIED MANAGER

In order to use NETASQ SYSLOG, you must first configure a number of parameters.

To do so, open the application NETASQ UNIFIED MANAGER, select **Logs** from the menu directory, then **Syslog** in the window that opens. The following window will appear:

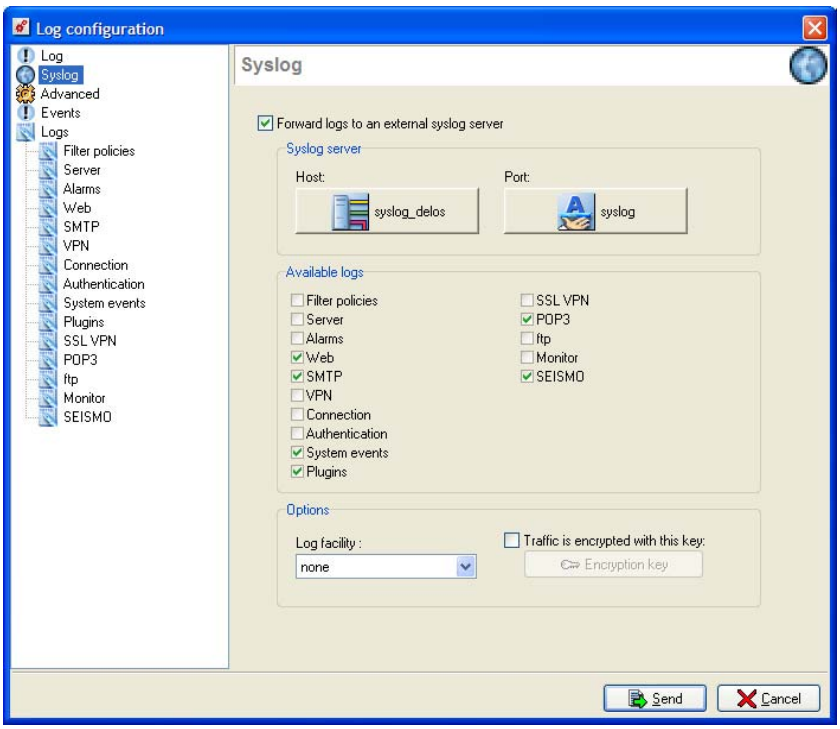


Figure 72: Log configuration

4.2.1.1. Steps of the configuration

1 Activate the option **Forward log to an external syslog server**.

2 Specify the host where NETASQ SYSLOG is installed using the "**Select an object**" button, then click on **"Syslog"** and check that the connection port is 514.

3 Specify the log types which will be sent from the Firewall to NETASQ SYSLOG (Filter, Server, Alarm, Web, SMTP, VPN, Connection, Authentication, System events, Plugins, SSL VPN, POP3, Monitor, SEISMO).

4 The Log facility has to be set at **none**.

5 **Traffic encryption**: Traffic passing between the Firewall and NETASQ SYSLOG may be encrypted in AES. To activate encryption, select the option **Traffic encryption**, then click on the **Encryption key** button. Enter the encryption key used (the same key value will be configured on NETASQ SYSLOG). **Encryption must be activated on NETASQ SYSLOG**.

4.2.2. Configuring NETASQ SYSLOG

NETASQ SYSLOG is configured via the graphical interface installed with the other applications in the Administration Suite. NETASQ SYSLOG is not installed by default, so to install it, the administration suite has to be installed in **Full**, **Server** or **Customized** modes.

Once this has been installed, the NETASQ SYSLOG configuration interface will be available in program menus by default:

➲ **`Start\All programs\NETASQ\Administration Suite no. xx\Configure NETASQ SYSLOG service.`**

4.2.2.1. Configuring NETASQ SYSLOG

The NETASQ SYSLOG configuration window consists of two menus:

- **`Service`**: **`Launch service`**, **`Shut down service`**, **`Activity`** and **`Quit`**.
- **`Options`**: configuration options for the syslog software, consists of three menus **`Preferences`**, **`Sizing`** and **`Parsing`**.

Options

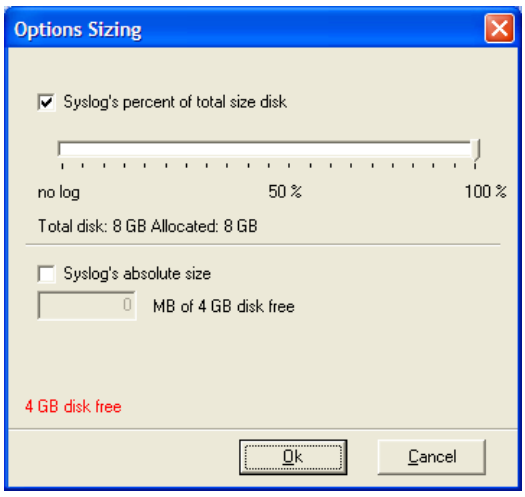


Figure 73: Sizing options

If you have activated log encryption on the administration console (NETASQ UNIFIED MANAGER) you must activate the option **Logs have to be decrypted** and enter the encryption key used (password).

You may specify the log storage directory path in the "Log target directory" field. Logs are stored by default in the directory: **C:\program files\NETASQ\Administration Suite x.x\Log.**

When the option **Log activity in a file** has been activated, all NETASQ SYSLOG operations and error messages will be stored in a file. This file is located in the NETASQ file directory (by default **C:\program files\NETASQ\Administration Suite x.x**) by the SyslogToFile.FRA or SyslogToFile.ENG.

Sizing

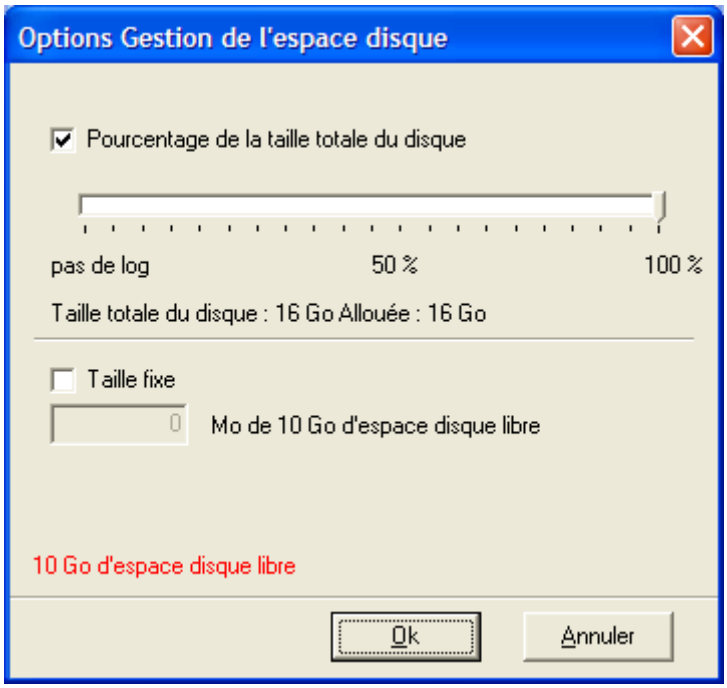


Figure 74: Sizing options

This tab allows you to determine the maximum size allocated to log files on the administration machine's hard disk so as to prevent flooding it.

You may choose a relative or absolute maximum size. The relative size is expressed in percentage of disk space used, while absolute size is expressed in Megabytes.

Relative size

To define a relative amount of disk space used, select the option **Syslog's percent of total disk size** and select the desired value.

Absolute size

To define an absolute size, select the option **Syslog's absolute size** and enter the absolute value in Megabytes.

Parsing

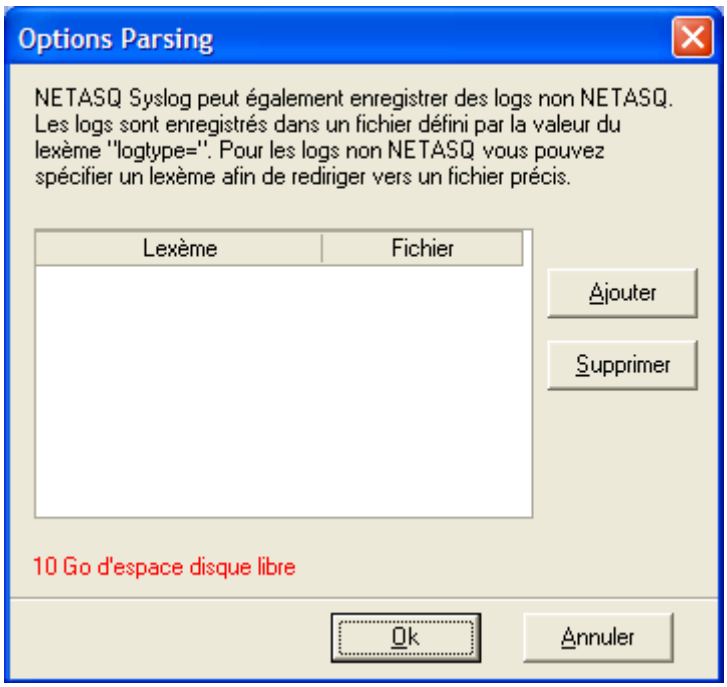

Options Parsing
NETASQ Syslog peut également enregistrer des logs non NETASQ. Les logs sont enregistrés dans un fichier défini par la valeur du lexème "logtype=". Pour les logs non NETASQ vous pouvez spécifier un lexème afin de rediriger vers un fichier précis.
Lexème
Fichier
Ajouter
Supprimer
10 Go d'espace disque libre
Ok
Annuler

Figure 75: Parsing options

Logs are saved in the file whose name has been defined by the value of the “logtype=” lexeme. For logs that have been gathered from non-NETASQ equipment (in WELF format), the file can be specified according to what is detected in the log line. Therefore, add probable keywords to each log line by associating them to a NETASQ log file, allowing logs from non-NETASQ equipment to be included in the tables presented in Reporter.

If a log line does not correspond to any configured lexeme, NETASQ SYSLOG will not be able to interpret it and it thereforewill not be taken into account in the Reporter tables.

Report and Collector can read logs if they are in WELF format. If not, these logs can only be read in Syslog.

CHAPTER 3: USING LOGS

NETASQ EVENT REPORTER analyzes the logs retrieved by NETASQ SYSLOG without the need for a connection to a Firewall.

4.3.1. Location of logs

Logs are stored in text files, in the directory chosen by the administrator. By default, if the administrator has not specified a particular directory, the log directory is in the following path: **`C:\program files\NETASQ\Administration Suite x.x\log.`**

Everyday, a new text file is created for each log type (filter, connection, alarm, SMTP and URL). The name of each file is constructed in the following way:

<log type>_<year>_<day of the year>

Examples
alarm_2003_295.log
connection_2003_291.log
filter_2003_25.log
web_2003_360.log
smtp_2003_360.log

APPENDICES

Appendix A: NETASQ Log Files

The treatment of traffic passing through Firewalls requires the generation of logs containing descriptions of all events that arose. Depending on the type of event encountered, these logs will be recorded in specific NETASQ log files.

There are 17 types of log files available on NETASQ Firewalls: "Alarm", "Auth", "Connection", "Count", "Filter", "Monitor", "Natstat", "Plugin", "Filterstat", "POP3", "PVM", "Server", "SMTP", "System", "VPN", "Web", "XVPN".

The names used for these log files are rather self-explanatory:

Alarm

Is used for alarms generated by ASQ in Firewalls (filter rules and “System” events which have a “minor” or “major” attribute are logged in this file), and its source is NETASQ’s IPS engine – ASQ,

> **Example**
> The Firewall’s ASQ logs an attempted FTP bounce on an FTP server protected by the Firewall (this traffic is blocked by default and raises a minor alarm).

The information saved in this log file is as follows:

Identifier (ID)	Firewall’s identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall’s local time.
Firewall (Fw)	Firewall’s serial number or name (if known).
Timezone (Tz)	Firewall’s timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).
Slotlevel	Number of the filter policy.
Source interface (Srcif)	Interface of the firewall on which the alarm was raised (Network card of the source interface.
Rule ID (Rule ID)	Rule identifier.
Source interface name (Srcifname)	Name of the source interface (only if it is known).
Internet Protocol (Ipproto)	IP
Protocol (Proto)	Analyzed protocol or Destination Port.
Source (Src)	IP address of the source.
Source Port	Port number of the source (only if it is TCP/UDP)

(Srcport)	
Source name (Srcname)	Name of the source (only if it is known).
Source port name	Name of the source (only if it is known)
Destination (Dst)	IP address of the destination
Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Dst Port name (Dstportname)	Name of the destination port (only if it is known)
Destination name (Dstname)	Name of the destination (only if it is known)
Action (Action)	Filter rule action. (Example: Block, Pass).
Message (Msg)	Additional information about the alarm
Class (Class)	Detailed category in which the alarm is found (Examples: Filters, Protocol, System, Pattern…)
Classification (Classification)	Generic category in which the alarm is found (Examples: Protocol, Content_filtering, Web, Mail, FTP…).
Packet length (Pktlen)	Length of the captured network packet.
(Pktdump)	Available network packet.
(AlarmID)	Alarm identifier.
(Repeat)	Number of times this alarm has been repeated within a given duration.

Auth

Is used for processing authentication on Firewalls, and its source is the authentication daemon,

> **Example**
> The Firewall's authentication module logs the authentication of the user "john.smith" for a period of four (4) hours.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
User	Identifier of the user requesting authentication
Source (Src)	Source address of the connection.
Method	Authentication method used (cf. *see authentication document*).
Error	Request return error code. (0 means OK and 2 means FAILED).
Message (Msg)	Indicates the number of hours allocated.

Connection

Is used for connections made to and from the Firewall, and its source is NETASQ's IPS engine – ASQ,

> **Example**
> The Firewall's ASQ kernel logs the connection from the host 192.168.0.2 and from port 1672 to the host 192.168.1.2 to port 1840.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).
Slotlevel	Number of the filter policy.
Rule ID (Rule ID)	Rule identifier.
User	Identifier of the user requesting authentication
Source interface (Srcif)	Network card of the source interface.
Source interface name (Srcifname)	Name of the source interface (only if it is known).
Internet Protocol (Ipproto)	IP
Dst Interface (Dstif)	Network card of the destination interface
Dst Interface name (Dstifname)	Name of the destination interface (only if it is known)
Protocol (Proto)	Analyzed protocol or Destination Port
Source (Src)	Source address of the connection.
Source Port (Srcport)	Port number of the source (only if it is TCP/UDP)
Source name (Srcname)	User's hostname.
Destination (Dst)	IP address of the destination
Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Destination name (Dstname)	Name of the destination (only if it is known)
Sent	Number of bytes sent.
Received (Rcvd)	Number of bytes received.
Duration	Duration of the connection.

Count

Is used for displaying count statistics (mainly in the case of filter rules with the “Count” attribute), and its source is the firewall process:

> **Example**
> The Firewall’s system logs the use of filter rule 4 (which has the “Count” attribute) 68501 times during the selected period. By default, this period lasts 15 minutes.

The information saved in this log file is as follows:

Identifier (ID)	Firewall’s identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall’s local time.
Firewall (Fw)	Firewall’s serial number or name (if known).
Timezone (Tz)	Firewall’s timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Rule (n:nn)	Number of times that a rule has been applied to a packet. In brackets, the first number indicates the number of the policy and the second refers to the number of the rule in this policy.

Filter

Is used for filter-generated logs (an entry is recorded each time a filter rule set to “Log” applies to the traffic passing through the Firewall), and its source is NETASQ’s IPS engine – ASQ:

> **Example**
> The Firewall’s ASQ kernel logs the event of filter rule 3 (which has been set to “Log”) being used for the treatment of a packet passing through the Firewall.

The information saved in this log file is as follows:

Identifier (ID)	Firewall’s identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall’s local time.
Firewall (Fw)	Firewall’s serial number or name (if known).
Timezone (Tz)	Firewall’s timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).
Slotlevel	Number of the active filter policy.
Rule ID (Rule iD)	Rule identifier.
User	Identifier of the user requesting authentication
Source interface (Srcif)	Interface of the firewall on which the alarm was raised (Network card of the source interface.

Source interface name (Srcifname)	Name of the source interface (only if it is known).
Internet Protocol (Ipproto)	IP
Protocol (Proto)	Analyzed protocol or Destination Port.
Source (Src)	IP address of the source.
Source Port (Srcport)	Port number of the source (only if it is TCP/UDP)
Source name (Srcname)	Name of the source (only if it is known).
Destination (Dst)	IP address of the destination
Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Dst Port name (Dstportname)	Name of the destination port (only if it is known)
Destination name (Dstname)	Name of the destination (only if it is known)

Filterstat

Is used for displaying statistics on filtering, and its source is the firewall process,

Example
The Firewall's system logs the passage of 1205 bytes of UDP traffic, 52 bytes of ICMP traffic and 4879 bytes of TCP traffic through the Firewall between 5 July 2004 at 00:00:00 and 15 August 2004 at 23:59:59.

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Rule (n:nn)	Number of times that a rule has been applied to a packet. In brackets, the first number indicates the number of the policy and the second refers to the number of the rule in this policy.
SavedEvaluation	Number of rule evaluations that could not be performed because of the ASQ technology.
Dynamic memory (DynamicMem)	Percentage of ASQ memory being used.
Host Memory (HostMem)	Memory allocated to a host.
Fragment Memory (FragMem)	Number of fragmented packets transmitted through the firewall.
ICMP Memory (ICMPMem)	Memory allocated to ICMP.
Connection Memory (ConnMem)	Memory allocated to connections.
DTrackMem	-
Logged	Number of log lines generated by ASQ.

LogOverflow	Number of log lines lost (could not be generated by ASQ).
SEISMO Events (PvmFacts)	Basic information (banners, HTTP user agent, mail client...) that ASQ has sent to SEISMO for vulnerability analysis.
SEISMO Overflow (PvmOverflow)	Number (higher than 0) indicating that vulnerabilities will be rejected in the event network traffic gets too heavy (if the event does not arise again later, or if it has not yet been encountered.
Accepted	Number of packets matching “Pass” rules
Blocked	Number of packets matching “Block” rules.
Byte	Number bytes transmitted through the firewall.
Fragmented	Number of fragmented packets transmitted through the firewall.
TCP Packet (TCPPacket)	Number of TCP packets transmitted through the firewall.
TCP Bytes (incoming/outgoing) (TCPByte (i/o))	Number of bytes from TCP packets transmitted through the firewall.
TCP Connections (TCPConn)	Number of TCP connections transmitted through the firewall.
UDP Packets (UDPPacket)	Number of UDP packets transmitted through the firewall.
UDP Bytes (UDPByte)	Number of bytes from UDP packets transmitted through the firewall.
UDP Connections (UDPConn)	Number of UDP connections transmitted through the firewall.
ICMP Packet (ICMPPacket)	Number of ICMP packets transmitted through the firewall.
ICMP Bytes (ICMPByte)	Number of bytes from ICMP packets transmitted through the firewall.

FTP

Identifier (ID)	Firewall identifier
Firewall (Fw)	Name or serial number of the firewall (if known).
Timezone (Tz)	Firewall’s timezone.
Start time (Start Time)	Time at which event was recorded.
Priority (Pri)	For alarms, level of the alarm (major or minor).
Protocol (proto)	Analyzed protocol or destination port.
Source (src)	Source address of the connection.
Source port (srcport)	Source port number (only if TCP/UDP).
Destination (dst)	IP address of the destination.
Destination port (dstport)	Destination port number (only if TCP/UDP).
Duration (duration)	Duration of the connection.
Sent (Sent)	Number of bytes sent.
Received (rcvd)	Number of bytes received
Action (action)	Rule action (example: Block, Pass).
Virus (virus)	Indicates whether the e-mail contains a virus. Some possible values are “safe”, “infected”, etc.
Message (msg)	Description of the FTP activity.
Argument (arg)	Action obtained (example: /gi-bin/uploadjs.cgi/)
Operation (op)	FTP command performed.
User (User)	Authenticated user
(Groupid)	Session identifier (link between the commands and data transfer).

Monitor

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Security	Indicator (in percentage) of security problems. The criteria are: minor alarm, major alarm and ASQ memory).
System	Indicator (in percentage) of system problems. (The criteria are: Log, Ethernet, CPU, HA and Daemon).
SEISMO CPU	Indicates the firewall's use of the CPU.
Pvm	SEISMO indicators (for vulnerabilities and information). Vulnerability indicators are: total, remote, target server, critic, minor, major, fixed. Information indicators and: info total, info minor, info major, monitored.
Source Interface (Srcif)	Network card of the source interface. Ethernet from 0 to 20.
QoS ID (Qid)	Indicates the number of bytes transmitted through Quality of Service rules.

Natstat

Is used for displaying statistics on address translation, and its source is the firewall process.

Example
The Firewall's system logs the number of address translations carried out to the internal network, outside the network and the translation rule used.

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Mapped to (mappedin)	Number of incoming packets translated.
Mapped to (mappedout)	Number of outgoing packets translated.
Added	Number of new active sessions.
Expired	Timeout, number of expired sessions.

Memory failure (Memfail)	Packets that could not be translated because the limit for the table of active sessions has been reached.
Bad NAT (Badnat)	Untranslated packets (failure during the creation of new sessions).
Used (Inuse)	Number of active sessions
Rules	Number of active NAT rules.
Dynamic lists (wilds)	Number of translations marked “wild”.

Plugin

Is used for the treatment of ASQ plugins, and its source is NETASQ’s IPS engine – ASQ:

> **Example**
> The Firewall’s ASQ kernel logs a malformed HTTP request (number of characters allowed in the request URL exceeded).

The information saved in this log file is as follows:

Identifier (ID)	Firewall’s identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall’s local time.
Firewall (Fw)	Firewall’s serial number or name (if known).
Timezone (Tz)	Firewall’s timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).
Slotlevel	Number of the active filter policy.
Rule ID	Rule identifier.
Source interface (Srcif)	Network card of the source interface.
Source interface name (Srcifname)	Name of the source interface (only if it is known).
Internet Protocol (Ipproto)	IP
Protocol (Proto)	Analyzed protocol or Destination Port.
Source (Src)	IP address of the source.
Source Port (Srcport)	Port number of the source (only if it is TCP/UDP)
Source name (Srcname)	Name of the source (only if it is known).
Destination (Dst)	IP address of the destination
Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Destination name (Dstname)	Name of the destination (only if it is known)
(Sent)	Number of bytes sent.

Received (rcvd)	Number of bytes received.
Duration	Duration of the connection.
Operation (Op)	Keywords used in protocols (Example: GET: operation sent to the http server).
Result	Result of the operation in the protocol (Example: 404 which indicates and error).
Argument (Arg)	Action obtained (Example: /gi-bin/uploadjs.cgi/)

POP3

Is used for sending messages.

Example
The proxy has saved the connection to the POP3 server.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).
Protocol (Proto)	Analyzed protocol or Destination Port.
Operation (Op)	Keywords used in protocols.
User	Identifier of the user requesting authentication
Source (Src)	Source address of the host.
Source Port (Srcport)	Port number of the source (only if it is TCP/UDP)
Destination (Dst)	IP address of the destination
Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Source name (Srcname)	User's hostname.
Sent	Number of bytes sent.
Received (Rcvd)	Number of bytes received.
Duration	Duration of the connection.
Spam Level	Spam level: 0 (message not considered spam) 1, 2 and 3 (spam) x (error when processing message) and ? (the nature of the message could not be determined).
Virus	Indicates whether the e-mail contains a virus. Possible values are "safe", "infected", etc.
Action	Filter rule action. (Example: Block, Pass).
Message (Msg)	Description of the activity on POP3.

PVM (Proactive Vulnerability management)

Issues all the vulnerabilities viewed by the SEISMO module, and its source is NETASQ's IPS engine – ASQ:

> **Example**
> The vulnerability scanner has detected a vulnerability on the FTP server. The vulnerability is detected in the hours after it has appeared.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).
Source (Src)	Source address of the connection.
Source name (Srcname)	Name of the source (only if it is known).
Internet Protocol (Ipproto)	IP
Protocol (Proto)	Analyzed protocol or Destination Port.
Port	Number of the port on which the vulnerability was detected.
Port name (Portname)	Name of the port on which the vulnerability was detected.
Vulnerability ID (vulnid)	Vulnerability identifier.
Message (Msg)	Explanation of the vulnerability or additional information.
Argument (arg)	Action obtained (Example: PHP_5.1.2)
Family	Type of family to which the vulnerability belongs.
Severity	The vulnerability's level of criticality.
Solution	Indicates with a "yes" or "no" if a workaround has been suggested.
Access (Remote)	The workaround can be accessed locally or remotely (via the network) and allows exploiting the vulnerability.
Target client (Targetclient)	Target client.
Target server (Targetserver)	Target server.
Discovered on (Discovery)	Date on which the vulnerability was discovered.

Server

Is used for running the administration server on Firewalls – serverd (in this file, all commands sent to serverd for the configuration of Firewalls are listed. Potentially, all commands for configuring Firewalls can be found here. These commands are also used for the online configuration of Firewall commands), and its source is the serverd administration server.

Example
The Firewall's administration module logs the command "config asq alarm show" whose purpose is to display the ASQ alarm configuration.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Error	A whole number beginning with 0 expressing respectively: OK, LAST (last command), FAILED (command failure), AUTH_FAILED (authentication failure), LEVEL_DENIED (user privileges do not allow this command to be executed).
User	The user connected via serverd (not an authenticated user).
Address	IP address used in the connection to the firewall via serverd.
Session ID (Sessionid)	Whole number that corresponds to a number given during a session. When there are several simultaneous connections, this enables distinguishing the different sessions.
Message (Msg)	This displays each command that the client has executed. Sensitive information (such as passwords) is removed.

SMTP

Is used for SMTP traffic logs, and its source is the SMTP proxy,

Example
The Firewall's proxy logs the event of an e-mail sent from the user "john.smith@netasq.com" to peter.jones@netasq.com.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).

Protocol (Proto)	Analyzed protocol or Destination Port.
User	Sender of the e-mail.
Source	Source address of the connection.
Source Port (Srcport)	Port number of the source (only if it is TCP/UDP)
Destination (Dst)	IP address of the destination
Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Source name (Srcname)	Name of the source (only if it is known).
(Sent)	Number of bytes sent.
Received (Rcvd)	Number of bytes received.
Duration	Duration of the connection.
Spam level (spamlevel)	Spam level.: 1, 2; 3, x (corresponds to an error) and ? (corresponds to N/A).
Action	Rule action (Example: Block, Pass).
Destination name (Dstname)	Name of the e-mail recipient.
Message (Msg)	Description (Example: "Error when transmitting data ".

System

Is used for running certain Firewall processes (“System” events with a “System” attribute are logged in this file). This file has several sources – various Firewall processes (DNS, DHCP, etc services).

> **Example**
> The Firewall logs the startup of the Firewall authentication module.

The information saved in this log file is as follows:

Identifier (ID)	Firewall’s identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall’s local time.
Firewall (Fw)	Firewall’s serial number or name (if known).
Timezone (Tz)	Firewall’s timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Service	Name of the writing service.
Message (Msg)	Explains the action of the service that generated this log.

VPN

Is used for events related to IPSec VPN policies.

Example
The VPN module logs the creation of an IPSec VPN tunnel between the gateways 192.168.12.35 and 47.89.69.215.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Error message (Error)	Error message.
Phase	SA negotiation phase
Source (Src)	Source address of the connection
Source name (Srcname)	Name of the source (only if it is known).
Destination (Dst)	IP address of the destination
Destination name (Dstname)	Name of the destination (only if it is known)
Initiating cookie (Cookie_i)	Initiator's temporary identity marker.
Receiving cookie (Cookie_r)	Responder's temporary identity marker
Incoming SPI (Spi_in)	SPI number of the negotiated incoming SA (in hexadecimal).
Outgoing SPI (Spi_out)	SPI number of the negotiated outgoing SA
Message (Msg)	Description of the negotiation phase (Example: "Phase established").

Web

Is used for web traffic logs, and its source is the HTTP proxy,

Example
The Firewall's proxy logs the request from user "john.smith" to consult the website "www.netasq.com".

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).

Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
Priority (Pri)	The level of the alarm (minor or major).
Rule ID (Ruleid)	Rule identifier.
Protocol (Proto)	Analyzed protocol or Destination Port.
Operation (Op)	Keywords used in protocols.
Result	Result of the operation performed.
User	Identifier of the user requesting authentication
Source (Src)	Source address of the connection.
Source Port (Srcport)	Port number of the source (only if it is TCP/UDP)
Destination (Dst)	IP address of the destination
Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Source name (Srcname)	Name of the source (only if it is known).
Destination name (Dstname)	Name of the destination (only if it is known)
Sent	Number of bytes sent.
Received (rcvd)	Number of bytes received.
Duration	Duration of the connection.
Action	Rule action (Example: Block, Pass).
Site category (Cat_site)	Category under which a website is placed.
Argument (arg)	Action obtained (Example: //1/master8.md5)

XVPN

Is used for events related to SSL VPN policies.

> **Example**
> The VPN module logs the creation of an SSL VPN tunnel between the gateways 192.168.12.35 and 47.89.69.215.

The information saved in this log file is as follows:

Identifier (ID)	Firewall's identifier.
Date Time (Time)	Date and time on which the line in the log file was generated at the firewall's local time.
Firewall (Fw)	Firewall's serial number or name (if known).
Timezone (Tz)	Firewall's timezone at the moment of writing the log
Saved at (Start time)	Time at which event was recorded
User	Identifier of the user requesting authentication
Argument (Arg)	Action obtained
Destination name (Dstname)	Name of the destination (only if it is known)

Destination Port (Dstport)	Port number of the destination (only if it is TCP/UDP)
Source (Src)	Source address of the connection.
Error message (Error)	Error message.
Message (Msg)	SA negotiation phase
Source name (Srcname)	Name of the source (only if it is known).
Dst Port name (Dstportname)	Name of the destination port (only if it is known)

As indicated above, ASQ, the central process of all NETASQ Firewalls, supplies the four main log files with the relevant data. Of all these files, the one that seems most important is without a doubt the “alarm” file which takes into account illegal events (not related to filters), which constitute attacks against the system.

WARNING
The classification of logs here is from a “System” point of view, although certain changes are made via the NETASQ administration suite for the display of logs.

Example
Logs corresponding to web traffic are displayed in the section File > Web in Reporter. These logs correspond to the “web” file and to the logs associated with the HTTP plugin in the “plugin” file.

Format of log files

Log files are text files. A log corresponds to a line ending with the characters “0D” and “0A” (in hexadecimal).

The lines are in WELF format. Documentation on this format can be found on Webtrends’ website: http://www.webtrends.com/library/prtnr_welf.doc.

Blocked packets and allowed packets

In each log line, it is important to locate the “Action” token, as it enables identifying packets which have been allowed (by the filter policy or because they had not been blocked by the ASQ analyses) when the “Action” has been set to “Pass”, and packets which have been blocked (which are either uneventfully deleted by the Firewall or deleted after a reinitialization has been sent to the packet’s source host – this information is not available to Firewall administrators) when the “Action” has been set to “Block”.

Logs regarding the change of time on Firewalls

When the Firewall’s time is reset, a special line will be written in all log files, according to the example below:

```
id=firewall time="2003-12-29 16:35:32"fw="U70XXA0Z0899020"tz=+0100
startime="2003-12-29 16:30:10"datechange=1 duration=322
```

The “datechange=1” token means that the time was reset and “duration” refers to the lag in seconds.

Exceptions on tokens

Certain log files do not exactly follow the WELF format. These exceptions will be listed in the following section.

Exceptions that are common to all logs

- "rule" is replaced with "ruleid",
- the "time" token refers to the time (firewall's local time) at which the line in the log file was saved,
- "tz" indicates the time difference from the firewall's time at the moment the log was written. Therefore it is possible to find out the time of the log in international time and to analyze attacks launched simultaneously on equipment in different countries,
- "startime" states the time at which a connection started. If the connection lasts for an hour, the "time" would be roughly equal to "startime" plus one hour,
- "groupid" represents a full FTP session – this notion is revisited in plugin logs,
- "dstif", "srcif", "dstifname", and "srcifname" refer to the firewall's source and destination interfaces with their names,
- "user" in several logs corresponds the names of persons authenticated via "authd",
- "icmptype" and "icmpcode" correspond respectively to the ICMP type and code in alarm logs.

ALARM log

- Internet Protocol (ipproto): IP.
- Source Port (srcport): Port number of the source (only if it is TCP/UDP).
- Source port name (Srcportname): Name of the source (only if it is known).
- Port Destination (dstport): Port number of the destination (only if it is TCP/UDP).
- Dst Port Name (dstportname): Name of the destination port (only if it is known).
- Action (action): Filter rule action. (Example: Block, Pass).
- Class (class): Detailed category in which the alarm is found (Examples: Filters, Protocol, System, Pattern…
- Classification (classification): Generic category in which the alarm is found (Examples: Protocol, Content_filtering, Web, Mail, FTP…)
- Packet length (Pktlen): Length of the captured network packet.
- (Pktdump): Available network packet.
- (AlarmID): Alarm identifier.
- (Repeat): Number of times this alarm has been repeated within a given duration.

AUTH log

- In "user", the person who has attempted to or has authenticated,
- "Method" corresponds to the method used for authentication – please refer to the section on authentication,
- "Message (Msg)" contains text expanding on the number of hours allocated,
- "Error" is a whole number – 0 for "OK" and "2" for "FAILED" (authentication failure).

COUNT log

Tokens that begin with "Rule" followed by a whole number correspond to the rule index. The associated value represents the number of times the rule matched.

> **Example**
> Rule0=1661: Rule 0 matched 1661 times.

FILTER log

- Slotlevel: number of the active filter policy.

FILTERSTAT log

Tokens that begin with “Rule” followed by a whole number correspond to the rule index. The associated value represents the number of times the rule matched.

> **Example**
> Rule0=1661: Rule 0 matched 1661 times.

- Saved Evaluation (SavedEvaluation): number of rule evaluations that could not be performed because of the ASQ technology.
- Host Memory (HostMem): Memory allocated to a host.
- Fragment Memory (FragMem): Memory allocated to fragments.
- ICMP Memory (ICMPMem): Memory allocated to ICMP.
- Dynamic memory (Dynamicmem): percentage of ASQ memory in use.
- Connection Memory (ConnMem): Memory allocated to connections.
- Logged: Number of log lines generated by ASQ.
- Log Overflow (LogOverflow): Number of log lines lost (could not be generated by ASQ).
- SEISMO events (PvmFacts): Basic information (banners, HTTP user agent, mail client...) that ASQ has sent to SEISMO for vulnerability analysis.
- SEISMO Overflow (PvmOverflow): Number (higher than 0) indicating that vulnerabilities will be rejected in the event network traffic gets too heavy (if the event does not arise again later, or if it has not yet been encountered).
- Accepted: Number of packets matching “Pass” rules.
- Blocked: Number of packets matching “Block” rules.
- Byte: Number of bytes transmitted through the firewall.
- Fragmented: Number of fragmented packets transmitted through the firewall.
- TCP Packet (TCPPacket): Number TCP packets transmitted through the firewall.
- TCP Byte (TCPByte): Number of bytes from TCP packets transmitted through the firewall.
- TCP Conn (TCPConn): Number of TCP connections made through the firewall.
- UDP Packet (UDPPacket): Number of UDP packets transmitted through the firewall.
- UDP Byte (UDPByte): Number of bytes from UDP packets transmitted through the firewall.
- UDP Connection (UDPConn): Number of UDP connections made through the firewall.
- ICMP Packet (ICMPPacket): Number of ICMP packets transmitted through the firewall.
- ICMP Byte (ICMPByte): Number of bytes from ICMP packets transmitted through the firewall.
- DTrackMem: Percentage of memory used. If it is at 100%, this means that it is fully used, and 0% means it is fully available.

MONITOR log

- Security (Security): Indicator (in percentage) of security problems. The criteria are: minor alarm, major alarm and ASQ memory)..
- System (system): Indicator (in percentage) of system problems. (The criteria are: Log, Ethernet, CPU, HA and Daemon).
- CPU: Indicates the firewall's use of the CPU .
- SEISMO (Pvm): SEISMO indicators (for vulnerabilities and information). Vulnerability indicators are: total, remote, target server, critic, minor, major, fixed. Information indicators and: info total, info minor, info major, monitored.
- QoS ID (Qid): Indicates the number of bytes transmitted through Quality of Service rules.

NATSTAT log

The specific tokens are:

- Mapped to (Mappedin): number of incoming packets translated.
- Mapped to (Mappedout): number of outgoing packets translated.
- Added: number of new active sessions.
- Expired: timeout, number of expired sessions
- Memory failure (Memfail): packets that could not be translated because the limit for the table of active sessions has been reached.
- Bad NAT (Badnat): untranslated packets (failure during the creation of new sessions).
- Used (Inuse): number of active sessions.
- Dynamic lists (Wilds): Number of translations marked "wild".

POP3 log

- Spamlevel: Spam level: 0 (message not considered spam) 1, 2 and 3 (spam) x (error when processing message) and ? (the nature of the message could not be determined).
- Virus (virus): Indicates whether the e-mail contains a virus. Possible values are "safe", "infected", etc.

PVM log

- Family (family): Type of family to which the vulnerability belongs.
- Severity (severity): The vulnerability's level of criticality.
- Solution (solution): Indicates with a "yes" or "no" if a workaround has been suggested.
- Access (Remote): The workaround can be accessed locally or remotely (via the network) and allows exploiting the vulnerability.
- Target client (Targetclient): Target client.
- Target server (Targetserver): Target server.
- Detected on (Discovery): Date on which the vulnerability was discovered.

SERVER log

- "Error" is a whole number beginning with 0 expressing respectively: OK, LAST (last command), FAILED (command failure), AUTH_FAILED (authentication failure), LEVEL_DENIED (user privileges do not allow this command to be executed.
- "User" corresponds to the user connected via serverd (NOT authenticated user).
- "Address" is the IP address used in the connection to the firewall via serverd.
- "Sessionid" is a whole number that corresponds to a number given during a session. When there aer several simultaneous connection, this enables distinguishing the different sessions.
- Message (Msg): this displays each command that the client has executed. Sensitive information (such as passwords) is removed.

Journal SYSTEM

Proxies also write events particular to their operation in this log.

- "Service" corresponds to the name of the writing service.
- Message (Msg) explains the action of the service that generated this log.

VPN log

- Initiating cookie (Cookie_i): Initiator's temporary identity marker.
- Receiving cookie (Cookie_r): Responder's temporary identity marker
- Incoming SPI (Spi_in): SPI number of the negotiated incoming SA (in hexadecimal)..
- Outgoing SPI (Spi_out): SPI number of the negotiated outgoing SA.

Web log

- Site category (Cat_site): Category under which a website has been placed.

Appendix B: List of filters by log file

Administration

<Any>
Result_cmd_failed
Result_cmd_success
User_admin

Alarm

<Any>
Configuration modification
Configuration validation
Flooding alarms
Incoming
Info requests
Major alarms
Major and block
Messenger
Minor alarms
Multimedia
P2P
P2P/Messenger/Multimedia
Pattern alarm
Protocol class

Spoofing alarms
System class
Wrong or strange packets

Authentication

<Any>
Auth_failed
Method_null
Method_TRANSPARENTSSL

Counters

<Any>

Connection

<Any>
Email_traffic
HTTP protocol
HTTPS protocol
More than 1 hour
More than 10 MB received
More than 10 MB sent
SMTP protocol

Filter stat

<Any>

Filters

<Any>
Blocked actions

Monitor

<Any>

Nat stat

<Any>

Plugin

<Any>
Operation is retr
Operation is stor
Plugin_ftp
Plugin_http
Proto_HTTP

POP3

<Any>
Mail virus detected (received)
Pop3_infected
Spam (pop)

SEISMO

<Any>	
Critical_severity	
High_severity	
Info_severity	
Local_exploit	Indicates the location where a vulnerability can be exploited (2 possible options: locally or remotely).
Low_severity	
Medium_severity	
More_than_info_severity	
OS_detected	
Remote_exploit	
Target_client	
Target_server	
Vuln_with_solution_more_than_info	
Vuln_without_solution_more_than_info	
Vulnerability_with_s	

olution

Vulnerability_without_solution

SMTP

<Any>

Mail virus detected (sent)

Smtp_infected

Spam (smtp)

System

<Any>

Service_proxy

Service_sld

Service_sysevent

IPSec VPN

<Any>

Error_result

Information_result

Msg_monitoring

Phase1

SSL VPN

<Any>

Access_denied_xvpn

Auth_success_xvpn

Web

<Any>

Action is block

Anonymous Proxies

Virus detected

Virus detected (not corrupted)

GLOSSARY

The terms found in this glossary are related to the subjects covered in this manual.

100BaseT

Also known as "Fast Ethernet," 100BaseT is Ethernet in 100 Mbps instead of the standard 10 Mbps. Like regular Ethernet, Fast Ethernet is a shared media network in which all nodes share the 100 Mbps bandwidth.

A

Active Update

The Active Update module on NETASQ firewalls enables updating antivirus and ASQ contextual signature databases as well as the list of antispam servers and the URLs used in dynamic URL filtering.

Address book

A centralized tool for several NETASQ applications. This address book can contain all the necessary information for connecting to a list of firewalls, simplifying the administrator's access as he no longer has to remember all the different passwords this entails.

Address translation

Changing an address into another. For example, assemblers and compilers translate symbolic addresses into machine addresses. Virtual memory systems translate a virtual address into a real address (address resolution)

Advanced mode (Router)

Configuration mode in which the firewall acts as a router between its different interfaces. This involves changes in IP addresses on routers or servers when you move them to a different network (behind an interface on a different network)

AES (*Advanced Encryption Standard*)

A secret key cryptography method that uses keys ranging from 128 to 256 bits. AES is more powerful and secure than Triple DES, until recently the de facto standard.

Alias IP

A supplementary address associated with an interface.

Antispam

System that allows the reduction of the number of unsolicited and occasionally malicious electronic messages that flood mail systems and attempt to abuse users.

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Antispyware

System that enables detecting and/or blocking the spread of spy software (which gathers personal information about the user in order to transmit it to a third party) on client workstations.

Antivirus

System that detects and/or eradicates viruses and worms.

Antivirus (*Kaspersky*)

An integrated antivirus program developed by Kaspersky Labs which detects and eradicates viruses in real time. As new viruses are discovered, the signature database has to be updated in order for the antivirus program to be effective

Appliance

Hardware that embeds the software as well as its operating system.

Asic (*Application-Specific Integrated Circuit*)

Specially-designed technology for a handful of specific features. These features are directly managed by the circuit instead of the software. ASICs cannot be reprogrammed.

ASQ (*Active Security Qualification*)

Technology which offers NETASQ Firewalls not only a very high security level but also powerful configuration help and administration tools. This intrusion prevention and detection engine integrates an IPS which detects and gets rid of any malicious activity in real time.

Asymmetrical cryptography

A type of cryptographic algorithm that uses different keys for encryption and decryption. Asymmetrical cryptography is often slower than symmetrical cryptography and is used for key exchange and digital signatures. RSA and Diffie-Hellman are examples of asymmetrical algorithms.

Authentication

The process of verifying a user's identity or origin of a transmitted message, providing the assurance that the entity (user, host, etc.) requesting access is really the entity it claims to be. Authentication can also refer to the procedure of ensuring that a transaction has not been tampered with.

Authentication header (AH)

Set of data allowing verification that contents of a packet have not been modified and also to validate the identity of a sender.

B

Backup appliance

Formerly known as a "slave", a backup appliance is used in high availability. It transparently takes over the master appliance's operations when the former breaks down, thereby ensuring the system to continue functioning with minimum inconvenience to the network's users.

Bandwidth

The transmission capacity of an electronic pathway (e.g. communications lines). It is measured in bits per second or bytes per second in a digital line and in an analog line, it is measured in Hertz (cycles per second).

Blowfish

A secret key cryptography method that uses keys ranging from 32 to 448 bits as a free replacement for DES or IDEA.

Bridge

Device connecting 2 LAN segments together, which may be of similar or dissimilar types (eg, Ethernet and Token Ring). The bridge is inserted into a network to segment it and keep traffic contained within segments to improve performance. Bridges learn from experience and build and maintain address tables of the nodes on the network. By keeping track of which station acknowledged receipt of the address, they learn which nodes belong to the segment.

Bridge or transparent mode

The transparent mode, also know as "bridge", allows keeping the same address range between interfaces. It behaves like a filtering bridge, meaning that all the network traffic passes through it. However, it is possible to subsequently filter traffic that passes through it according to your needs and to therefore protect certain portions of the network

Brute force attack

An exhaustive and determined method of testing all possible combinations, one by one, to find out a password or secret key by trial and error. This method only works when the sought after password contains very few characters.
This attack can be thwarted simply by choosing longer passwords or keys, which the intruder will take longer to find out.

Buffer

Temporary storage zone.

Buffering

Temporary storage of information for the purpose of processing it at one go, instead of as and when it is received.

Buffer overflow

An attack which usually works by sending more data than a buffer can contain so as to make a program crash (a buffer is a temporary memory zone used by an application). The aim of this attack is to exploit the crash and overwrite part of the application's code and insert malicious code, which will be run after it has entered memory.

C

CA Certificate (or Certification)

Authority - A trusted third-party company or organization which issues digital certificates. Its role is to guarantee that the holder of the certificate is indeed who he claims to be. CAs are critical in data security and electronic commerce because they guarantee that parties exchanging information are really who they claim to be.

Certificate
(see digital certificate)

Certificate Revocation List (*CRL*)
A list of expired (revoked) certificates or of those that are no longer considered trustworthy. It is published and regularly maintained by a CA to ensure the validity of existing certificates.

Challenge/response
An authentication method for verifying the legitimacy of users logging onto the network wherein a user is prompted (the challenge) to provide some private information (the response). When a user logs on, the server uses account information to send a "challenge" number back to the user. The user enters the number into a credit-card sized token card that generates a response which is sent back to the server.

Chassis
Also called a case, it is a physical structure that serves as a support for electronic components. At least one chassis is required in every computer system in order to house circuit boards and wiring.

Context
The current status, condition or mode of a system.

Common criteria
The common criteria, an international standard, evaluate (on an Evaluation Assurance Level or EAL scale of 1 to 7) a product's capacity to provide security functions for which it had been designed, as well as the quality of its life cycle (development, production, delivery, putting into service, update).

Contextual signature
An attack signature, ie, the form that an attack takes. ASQ relies on a database of contextual signatures to detect known attacks in a short time.

CPU (Central Processing Unit)
Better known as a processor, this is an internal firewall resource that performs the necessary calculations.

Cryptography
The practice of encrypting and decrypting data.

D

Daemon
An application that runs permanently in the background on an operating system.

Datagram
An information block sent over a communication line within a network.

Data Encryption Standard (*DES*)
Cryptographic algorithm for the encryption of data. In particular, it allows encrypting data by blocks.

Data evasion

Also known as IDS evasion, it is a hacker's method of tricking an intrusion detection system by presenting to it packets formed from similar headers but which contain data different from what the client host will receive.

Denial of service (DoS) attack

An attack which floods a network with so many requests that regular traffic is slowed down or completely interrupted, preventing legitimate requests from being processed.

DHCP (*Dynamic Host Configuration Protocol*)

Protocol that allows a connected host to dynamically obtain its configuration (mainly its network configuration). DHCP finds its own IP address. The aim of this protocol is to simplify network administration.

Dialup

Interface on which the modem is connected.

Diffie-Hellmann key exchange algorithm

An algorithm that enables parties to exchange public keys securely in order to arrive at a shared secret key at both ends, without ever having to transmit the secret key, thereby avoiding the risk of the secret key being intercepted. It does not carry out data encryption, and can even be used over untrusted channels.

Digital certificate

The digital equivalent of an identity card for use in a public key encryption system, these are mainly used to verify that a user sending a message is who he claims to be, and to provide the receiver of a message with a way to encrypt his reply. The X.509 format is most typically used and contains information regarding the user and the certification authority.

Digital signature

Method of verifying identities on a network based on public key encryption.

DMZ (*DeMilitarized Zone*)

Buffer zone of an enterprise's network, situated between the local network and the internet, behind the firewall. It corresponds to an intermediary network grouping together public servers (HTTP, SMTP, FTP, etc.) and whose aim is to avoid any direct connection with the internal network in order to warn it of any external attack from the web.

DNS (*Domain Name System*)

Distributed database and server system which ensures the translation of domain names used by internet users into IP addresses to be used by computers, in order for messages to be sent from one site to another on the network.

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Dynamic quarantine
An imposed quarantine following a specific event, eg, when a particular alarm is raised.

Dynamic routing
Routing that adapts automatically to changes that arise on a network so that packets can be transported via the best route possible.

E

Encapsulation
A method of transmitting multiple protocols within the same network. The frames of one type of protocol are carried within the frames of another.

Encryption
The process of translating raw data (known as plaintext) into a seemingly meaningless version (ciphertext) to protect the confidentiality, integrity and authenticity of the original data. A secret key is usually needed to unscramble (decrypt) the ciphertext.

Ethernet
Packet switching information network protocol, a technology that allows all hosts on a local network to connect to the same communication line.

Ethernet port
(see Ethernet).

F

Filtering router
Router which implements packet filters.

Filter policy
One of the more important aspects in the security of the resources that the firewall protects – the creation of filter rules that allow avoiding network flaws.

Filter rule
A rule created to perform several possible actions on incoming or outgoing packets. Possible actions include blocking, letting through or disregarding a packet. Rules may also be configured to generate alarms which will inform the administrator of a certain type of packet passing through.

Firewall
A basic feature in peripheral information security, a firewall can be a hardware or software that allows filtering access to and from the company network.

Firmware
Software that allows a component to run before the drivers.

FTP (*File Transfer protocol*)

Common internet protocol used for exchanging files between systems. Unlike other TCP/IP protocols, FTP uses two connections – one for exchanging parameters and another for the actual data.

Full duplex

Two-way communication in which sending and receiving can be simultaneous.

G

Gateway

Host which acts as an entrance or connection point between two networks (such as an internal network and the internet) which use the same protocols.

Gigabit Ethernet

An Ethernet technology that raises transmission speed to 1 Gbps (1000Mbps).

H

Half-duplex

One-way communication mode in which data can only be sent in one direction at a time.

Hash function

An algorithm that converts text of a variable length to an output of fixed size. The hash function is often used in creating digital signatures.

Header

A temporary set of information that is added to the beginning of the text in order to transfer it over the network. A header usually contains source and destination addresses as well as data that describe the contents of the message.

High availability

A solution based on a group of two identical Firewalls which monitor each other. If there is a malfunction in the Firewall software or hardware during use, the second Firewall takes over. This switch from one Firewall to the other is wholly transparent to the user.

Hot swap

The ability to pull out a device from a system and plug in a new one while the power is still on and the unit is still running, all while having the operating system recognize the change automatically.

HTTP

Protocol used for transferring hypertext documents between a web server and a web client.

HTTP Proxy

A proxy server that specializes in HTML (Web page) transactions.

Hub

A central connection point in a network that links segments of a LAN.

Hub and spoke

Any architecture that uses a central connecting point that is able to reach all nodes on the periphery (“spokes”).

Hybrid mode

Mode which combines two operation modes - transparent mode (bridge principle) and advanced mode (independent interfaces). The purpose of the hybrid mode is to operate several interfaces in the same address class and others in different address classes.

Hypertext

Term used for text which contains links to other related information. Hypertext is used on the World Wide Web to link two different locations which contain information on similar subjects.

I

ICMP (*Internet Control Message Protocol*)

A TCP/IP protocol used to send error and control messages and for exchanging control information.

IDS (*Intrusion Detection System*)

Software that detects attacks on a network or computer system without blocking them.

IKE *(Internet Key Exchange)*

A method for establishing an SA which authenticates the encryption and authentication algorithms to be applied on the datagrams that it covers, as well as the associated keys.

Implicit filter rule

Filter rule that the firewall implicitly generates after the administrator has modified its configuration. For example, when the http proxy is activated, a set of implicit filter rules will be generated in order to allow connections between the client and the proxy as well as between the proxy and the server.

Interface

A zone, whether real or virtual, that separates two elements. The interface thus refers to what the other element need to know about the other in order to operate correctly.

Internet Protocol

Protocol used for routing packets over networks. Its role is to select the best path for conveying packets through the networks.

IP Address

(IP being Internet Protocol). An IP address is expressed in four sets of numbers (from 0 to 255) separated by dots, and which identify computers on the internet

IPS (*Intrusion Prevention System*)

System that enables detecting and blocking intrusion attempts, from the Network level to the Application level in the OSI model.

IPSEC

A set of security protocols that provides authentication and encryption over the internet and supports secure exchanges. It is largely used for the setup of VPNs (Virtual Private Networks).

ISAKMP (*Internet Security Association and Key Management Protocol*)

A protocol through which trusted transactions between TCP/IP entities are established.

K

Kernel

The core of the operating system.

L

LAN (*Local Area Network*)

A communications network that is spread out over a limited area, usually a building or a group of buildings and uses clients and servers - the "clients" being a user's PC which makes requests and the "servers" being the machine that supplies the programs or data requested.

LDAP (*Lightweight Directory Access Protocol*)

A protocol or set of protocols used to access directory listings.

Leased line

A permanent telephone connection between two points, as opposed to dialup. Typically used by enterprises to connect remote offices.

Load balancing

Distribution of processing and communications activity across a computer network to available resources so that servers do not face the risk of being overwhelmed by incoming requests.

Logs

A record of user activity for the purpose of analyzing network activity.

M

MAC address (*Media Access Control Address*)

A hardware address that physically identifies each node of a network and is stored on a network card or similar network interface. It is used for attributing a unique address at the data link level in the OSI model.

Man-in-the-middle attack

Also known as a "replay attack", this consists of a security breach in which information is stored without the user's authorization and retransmitted, giving the receiver the impression that he is participating in an authorized operation. As a result of this, an attacker can intercept keys and replace them with his own without the legitimate parties' knowledge that they are communicating with an attacker in the middle.

MAP

This translation type allows converting an IP address (or n IP addresses) into another (or n IP addresses) when going through the firewall, regardless of the connection source.

Modularity

Term describing a system that has been divided into smaller subsystems which interact with each other.

MSS (*Maximum Segment Size*)

MSS value represents the largest amount of data (in bytes) that a host or any other communication device van contain in a single unfragmented frame. To get the best yield possible, the size of the data segment and the header have to be lower than the MTU.

N

NAT (Network *address Translation*)

Mechanism situated on a router that allows matching internal IP addresses (which are not unique and are often unroutable) from one domain to a set of unique and routable external addresses. This helps to deal with the shortage of IPv4 addresses on the internet as the IPv6 protocol has a larger addressing capacity.

NETASQ EVENT REPORTER

Module in NETASQ's Administration Suite that allows viewing log information generated by firewalls.

NETASQ REAL-TIME MONITOR

Module in NETASQ's Administration Suite that allows viewing the firewall's activity in real time.

NETASQ Shield

Security agent that protects Microsoft Windows® workstations and servers by integrating NETASQ's ASQ technology.

NETASQ UNIFIED MANAGER

Module in NETASQ's Administration Suite that allows configuring firewalls.

Non-repudiation

The capacity of parties involved in a transaction to attest to the participation of the other person in the said transaction.

NTP (*Network Time Protocol*)

Protocol that allows synchronizing clocks on an information system using a network of packets of variable latency.

O

Object

Objects used in the configuration of filter or address translation. These may be hosts, users, address ranges, networks, service, protocols, groups, user groups and network groups.

OS detection

A method of determining the operating system and other characteristics of a remote host, using tools such as queso or nmap.

OSI

International standard defined by ISO describing a generic 7-layer model for the interconnection of heterogeneous network systems. The most commonly-used layers are the “Network” layer, which is linked to IP, the “Transport” layer, linked to TCP and UDP and the “Application” layer, which corresponds to application protocols (SMTP, HTTP, HTTPS, IMAP, Telnet, NNTP…).

P

Pack

Rfers to a unit of information transported over a network. Packets contain headers (which contain information on the packet and its data) and useful data to be transmitted to a particular destination.

Packet analyzer

When an alarm is raised on a NETASQ Firewall, the packet that caused this alarm to be raised can be viewed. To be able to do so, a packet viewing tool like “Ethereal” or “Packetyzer” is necessary. Specify the selected tool in the **Packet analyzer** field, which Reporter will use in order to display malicious packets.

Partition

A section of disk or memory that is reserved for a particular application.

PAT (*Port Address Translation*)

Modification of the addresses of the sender and recipient on data packets. Changes in IP address involve the PAT device's external IP address, and port numbers, instead of IP addresses, are used to identify different hosts on the internal network. PAT allows many computers to share one IP address.

Peer-to-peer

Workstation-to-workstation link enabling easy exchange of files and information through a specific software. This system does not require a central server, thus making it difficult to monitor.

Ping (*Packet INternet Groper*)

An internet utility used to determine whether a particular IP address is accessible (or online). It is used to test and debug a network and to troubleshoot internet connections by sending out a packet to the specified address and waiting for a response.

PKI (*Public Key Infrastructure*)

A system of digital certificates, Certificate Authorities and other registration authorities which verify and authenticate the validity of parties involved in an internet transaction.

Plugin

An auxiliary program that adds a specific feature or service to a larger system and works with a major software package to enhance its capacity.

Port redirection (REDIRECT)

The use of a single IP address to contact several servers.

Port scanning

A port scan is a technique that allows sending packets to an IP address with a different port each time, in the hopes of finding open ports through which malicious data can be passed and discovering flaws in the targeted system. Administrators use it to monitor hosts on their networks while hackers use it in an attempt to compromise it.

PPP (*Point-to-Point Protocol*)

A method of connecting a computer to the internet. It provides point-to-point connections from router to router and from host to network above synchronous and asynchronous circuits. It is the most commonly used protocol for connecting to the internet on normal telephone lines.

PPPoE (*Point-to-Point Protocol Over Ethernet*)

A protocol that benefits from the advantages of PPP (security through encryption, connection control, etc). Often used on internet broadband connections via ADSL and cable.

PPTP (*Point-to-Point Tunnelling Protocol*)

A protocol used to create a virtual private network (VPN) over the Internet. The internet being an open network, PPTP is used to ensure that messages transmitted from one VPN node to another are secure.

Private IP Address

Some IP address ranges can be used freely as private addresses on an Intranet, meaning, on a local TCP/IP network. Private address ranges are

- 172.16.0.0 to 172.31.255.255
- 192.168.0.0 to 192.168.255.255
- 10.0.0.0 to 10.255.255.255

Private key

One of two necessary keys in a public or asymmetrical key system. The private key is usually kept secret by its owner.

Protocol analysis

A method of analysis and intrusion prevention that operates by comparing traffic against the standards that define the protocols.

Protocols

A set of standardized rules which defines the format and manner of a communication between two systems. Protocols are used in each layer of the OSI model.

Proxy

System whose function is to relay connections that it intercepts, or which have been addressed to it. In this way, the proxy substitutes the initiator of the connection and fully recreates a new connection to the initial destination. Proxy systems can in particular be used to carry out cache or connection filter operations.

Proxy server

(see *Proxy*).

Public key

One of two necessary keys in a public or asymmetrical key cryptography. The public key is usually made known to the public.

Q

QID

QoS queue identifier.

QoS (*Quality of Service*)

A guaranteed throughput level in an information system that allows transporting a given type of traffic in the right condition, ie, in terms of availability and throughput. Network resources are as such optimized and performance is guaranteed on critical applications.

R

RADIUS (*Remote Authentication Dial-In User Service*)

An access control protocol that uses a client-server method for centralizing authentication data. User information is forwarded to a RADIUS server, which verifies the information, then authorizes or prohibits access.

RAID (*Redundant array of independent disks*)

Hardware architecture that allows accelerating and securing access to data stored on hard disks and/or making such access reliable. This method is based on the multiplication of hard disks.

Replay

Anti-replay protection means a hacker will not be able to re-send data that have already been transmitted.

RFC (*Request for Comments*)

A series of documents which communicates information about the internet. Anyone can submit a comment, but only the Internet Engineering Task Force (IETF) decides whether the comment should become an RFC. A number is assigned to each RFC, and it does not change after it is published. Any amendments to an original RFC are given a new number.

Router

A network communication device that enables restricting domains and determining the next network node to which the packet should be sent so that it reaches its destination fastest possible.

Routing protocol

A formula used by routers to determine the appropriate path onto which data should be forwarded. With a routing protocol, a network can respond dynamically to changing conditions, otherwise all routing decisions have to be predefined.

S

SA (*Security Association*)

VPN tunnel endpoint.

SCSI (*Small computer system interface*)

standard that defines an interface between a computer and it(s) storage peripherals, known for its reliability and performance.

Security policy

An organization's rules and regulations governing the properties and implementation of a network security architecture.

SEISMO

Module that allows the network administrator to collect information in real time and to analyze it in order to weed out possible vulnerabilities that may degrade the network. Some of its functions include raising ASQ alarms and maintaining an optimal security policy.

Session key

A cryptographic key which is good for only one use and for a limited period. Upon the expiry of this period, the key is destroyed, so that if the key is intercepted, data will not be compromised.

Signature

A code that can be attached to a message, uniquely identifying the sender. Like a written signature, the purpose of a digital signature is to guarantee that the individual sending the message really is who he claims to be.

Single-use password

A secure authentication method which deters the misuse of passwords by issuing a different password for each new session.

Slot

Configuration files in the NETASQ UNIFIED MANAGER application, numbered from 01 to 10 and which allow generating filter and NAT policies, for example.

SMTP (*Simple Mail Transfer Protocol*)

TCP/IP communication protocol used for electronic mail exchange over the internet.

SMTP Proxy

A proxy server that specializes in SMTP (mail) transactions.

SNMP (*Simple Network Management Protocol)*

Communication protocol that allows network administrators to manage network devices and to diagnose network incidents remotely.

SSH (*Secure Shell*)

Software providing secure logon for Windows and UNIX clients and servers.

SSL (*Secure Socket Layer*)

Protocol that secures exchanges over the internet. It provides a layer of security (authentification, integrity, confidentiality) to the application protocols that it supports.

Star topology / Network

A LAN in which all terminals are connected to a central computer, hub or switch by point-to-point links. A disadvantage of this method is that all data has to pass through the central point, thus raising the risk of saturation.

Stateful Inspection

Method of filtering network connections invented by Check Point, based on keeping the connection status. Packets are authorized only if they correspond to normal connections. If a filter rule allows certain outgoing connections, it will implicitly allow incoming packets that correspond to the responses of these connections.

Static quarantine

A quarantine that the administrator sets when configuring the firewall.

Symmetrical key cryptography

A type of cryptographic algorithm in which the same key is used for encryption and decryption. The difficulty of this method lies in the transmission of the key to the legitimate user. DES, IDEA, RC2 and RC4 are examples of symmetrical key algorithms.

T

TCP (*Transmission Control Protocol*)

A reliable transport protocol in connected mode. The TCP session operates in three phases – establishment of the connection, the transfer of data and the end of the connection.

Throughput

The speed at which a computer processes data, or the rate of information arriving at a particular point in a network system. For a digital link, this means the number of bits transferred within a given timeframe. For an internet connection, throughput is expressed in kbps (kilobits per second).

Trace route

Mechanism that detects the path a packet took to get from one point to another.

Trojan horse

A code inserted into a seemingly benign programme, which when executed, will perform fraudulent acts such as information theft.

TTL (*Time-to-Live*)

The period during which information has to be kept or cached.

U

UDP (*User Datagram Protocol*)

One of the main communication protocols used by the internet, and part of the transport layer in the TCP/IP stack.

This protocol enables a simple transmission of packets between two entities, each of which has been defined by an IP address and a port number (to differentiate users connected on the same host).

Unidirectional translation (MAP)

This translation type allows you to convert real IP addresses on your networks (internal, external or DMZ) into a virtual IP address on another network (internal, external or DMZ) when passing through the firewall.

URL filter

Service that enables limiting the consultation of certain websites. Filters can be created in categories containing prohibited URLs (eg. Porn, games, webmail sites, etc) or keywords.

URL (*Uniform Resource Locator*)

Character string used for reaching resources on the web. Informally, it is better know as a web address.

User enrolment

When an authentication service has been set up, every authorized user has to be defined by creating a “user” object. The larger the enterprise, the longer this task will take. NETASQ’s web enrolment service makes this task easier. If the administrator has defined a PKI, “unknown” users will now request the creation of their accounts and respective certificates.

UTM (*Unified Threat Management*)

Concept that consists of providing the most unified solution possible to counter multiple threats to information security (viruses, worms, Trojan horses, intrusions, spyware, denials de service, etc).

V

VLAN (*Virtual Local Area Network*)

Network of computers which behave as if they are connected to the same network even if they may be physically located on different segments of a LAN. VLAN configuration is done by software instead of hardware, thereby making it very flexible.

VPN (*Virtual Private Network*)

The interconnection of networks in a secure and transparent manner for participating applications and protocols – generally used to link private networks to each other through the internet.

VPN keep alive

The artificial creation of traffic in order to remove the latency time which arises when a tunnel is being set up and also to avoid certain problems in NAT.

VPN Tunnel

Virtual link which uses an insecure infrastructure such as the internet to enable secure communications (authentication, integrity & confidentiality) between different network equipment.

W

WAN (*Wireless Area Network*)

Local wireless network.

Wifi (*Wireless Fidelity*)

Technology allowing wireless access to a network.

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